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THE PLACE OF HEGEL IN THE HISTORY OF PHILOSOPHY.[1]

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Hegel, one might say ironically, died a hundred years ago, and yet the world still goes on—or, more pointedly, philosophy still goes on, though it was to have culminated in the Hegelian system. Nevertheless, there is some ground for raising the question whether it does go on. No such philosophical *system* as Hegel's has appeared since his time. On any important philosophical or scientific question there is what may be recognised as a Hegelian view, and as much cannot be said of the position of any subsequent philosopher—or, for that matter, of any earlier one.

The position of Plato is peculiar. It has been maintained that Plato had no philosophical system and would not have recognised the necessity of system. But we have to remember the historical interest of Plato's works, his desire, in particular, to expound in detail the position of Socrates, as well as his view that philosophical publications should consist not in the presentation of results but in the raising of problems, in such a way as to stimulate the reader's own thinking. These facts being understood, we cannot suppose that the pupil of Socrates did not recognise the value of coherence, the need for a philosophy, and we can gather much from the later dialogues as to what that philosophy was.

Plato's objection to the publication of a finished philosophy would apply to Hegel. Many of the latter's extant works were not, of course, published by himself. But he did aim at completeness, at a comprehensive treatment of the totality of things, and the defects of this outlook appear notably in his work. It has the particular effect of fostering pretended solutions of problems—solutions which are mere re-statements of the problem or of the fact that there is a problem, as in the well-known formula of "identity in

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[1] An address delivered to the Sydney branch of the Association on the occasion of the centenary of the death of Hegel. (G. W. F. Hegel, 27th August, 1770, to 14th November, 1831.)

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difference". The development of a "metaphysical" terminology in which we appear to be saying something when we are not, is clearly a hindrance to philosophical discovery. And the fact that philosophy is made to cover all questions leads not merely to such "vague generalities" but to forced and absurd interpretations of things, such as are seen at their worst in the work of some of Hegel's disciples[1] but are present also in his own work. Every historical thing has to have logical necessity, just as every earlier theory has to contribute something to the Hegelian summing up of reality.

Nevertheless, the appearance of a distinctively Hegelian solution of any problem is in accordance with the need for finding a philosophical solution of any philosophical problem; and it cannot be said that any subsequent philosopher (granted that Alexander approaches this requirement, and that a working out of his position would provide a more coherent philosophy than the Hegelian) comes up to Hegel in this respect. The most comprehensive philosophical theories that have been presented in the last century are those of the Hegelians, particularly of the English Hegelians or semi-Hegelians, like Green, Bradley and Bosanquet; in spite of their fine phrases and their mystification, the "literary" philosophers of the idealist school have shown a philosophical tenacity much greater than anything exhibited by theorists professing a "scientific" exactitude.

To get a philosophy comparable in range to Hegel's and capable of disposing of it, we have to take account of *many* recent developments—of the work of William James, of English Realism and especially of Alexander, of the Freudian psycho-analysis, and of Burnet's work on Greek philosophy. And even here a certain Hegelian influence has to be recognised. In spite of his forcing the Greek philosophers to fit into his scheme of logically successive outlooks, Hegel has done much to stimulate interest in Greek philosophy; and this, along with his attention to logic, has helped to discredit the pragmatic or utilitarian attitude which had largely dominated modern philosophy till his time, and which is as evident in Kant's "regulative principles" as in the various attempts to determine the limits of possible knowledge. Moreover, his insistence on a single logic had some influence on the development of that positivism (or naturalism) which has affected the work of James and Alexander and, one might add, Freud. Apart, however, from the adumbrations of a realist philosophy in the above-mentioned movements, Hegelianism has been opposed mainly by the resurrection of old views—Cartesian rationalism or English "empiricism", as in Mill's rehash of Berkeley and Hume. Hegel had sufficiently demonstrated the "inadequacy" (the illogical or incoherent character) of these positions, and much subsequent work, so far from exhibiting any advance on his views, has depended on a mere ignoring of the points he made.

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[1] *Cf.* Croce: "What is Living and What is Dead of the Philosophy of Hegel", p. 208. "Who will narrate in all their wealth of amusing details the lamentable fortunes of the dialectic method at the hands of Hegel's disciples? One of them dialecticised spirit as the masculine principle, nature as the feminine, and history as the matrimonial union. Another found in the Oriental world the category of being; in the classical world the category of essence; and in the modern world the category of the concept. For yet another, antiquity was the kingdom of art; the modern world that of philosophy; the future was to be the kingdom of morality. And in the ancient world Athens was made to correspond with dynamic electricity, Sparta with static electricity, Macedonia with electro-magnetism, Persia with light, Rome with expansive and absorbent heat."

Hegel is right, then, in maintaining, in opposition to eclecticism or pragmatism, that philosophy should be systematic. But its systematic character should appear in the form of a single logic, not in the form of "totality", of a pretended *solution of all problems*. He is right, also, in maintaining that this logic should be historical, if we take this to mean that it is the theory of things as historical; but it should not itself be considered as advancing, however the study of it may do so. It is the theory of what things are at any time; and, granted that philosophical progress may be made, the nature of philosophical problems remains the same now as it was in 500 B.C. It is only if modern philosophers have discovered truths which ancient philosophers failed to discover, that modern philosophy can be said to have made any advance on ancient philosophy. To substitute for a logic of things as developing a developing logic is to do away with the object of philosophical study and fall into scepticism; for logic can only develop illogically. The *pretended* object of philosophical study which remains for the devotees of a progressive logic—the totality, the "Absolute", the historical-unhistorical—merely exemplifies this scepticism, for its "phases" have to be taken at random; there is nothing to show that any phase is a phase of *its*, that any history is *its* history.[1]

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[1] This point has practical demonstration in the case of those "historical materialists" who, while on the one hand they are quite empirically concerned with a historical treatment of a definite thing, *society*, are idealistic enough to make social history a part of the history of a postulated Absolute. Naturally they are unable to show what part it is or to supply the cosmic background. But, like the more orthodox Hegelians, they derive from the doctrine of the Absolute support for treating everything else as relative, and thus from the supposition of a developing logic, an ascending series of categories, they import into social theory the conception of special categories, a special logic, for each social phase and social class. This results in a particular form of *ignoratio elenchi*, viz., the acceptance or rejection of arguments according to the "ideology" on which they are based. In practice it induces *faith* or concentration on "the one thing needful"; but the force thus gained is counteracted by the weakness of sectarianism, and this has to be overcome (as far as it can be) by various alliances, on a basis of "immediate demands", with people who accept a commonsense logic.

To overcome scepticism, then, to have philosophy, we must recognise that there is no universal history, no one-track development. Our attention being drawn to history, the weaknesses of Hegel's position enable us to see that it is *not* a single process, not the progressive unfolding of the Absolute. We find likewise that the history of philosophical theory is not a progress from lower to higher outlooks. There is regress (*i.e.*, the recrudescence of errors) just as much as progress, and we cannot say that there will be a time when we do not require to go back to earlier problems, that earlier views can be "taken up" into a higher system as Hegel thought preceding philosophies could be into his, that philosophy can culminate. Truths, we say, can be discovered but they can also be forgotten. Indeed the doctrine of "outlooks" (of a general point of view which can cover or embody each particular view we have) rests on inability to grasp the *independence* of truths and is part of the illogicality of the Hegelian totalism.

Any period in the history of philosophy will afford illustrations of these points. In Greek philosophy there is the notable case of Heraclitus, who, in spite of his exposure of Pythagorean rationalism, exercised a very slight influence on later thought in comparison with the Pythagoreans. Again, Aristotle's "advance" on Plato consisted largely in a vulgarisation of his doctrines. So in modern philosophy (the passage to which raises the further question of periods which were philosophically null) there is no steady advance, but commonly a man's successors, even when they arrive at a better position on one point, get into a worse position on others. Berkeley successfully exposed Locke's representationism (though this did not prevent either Berkeley himself or his successors from falling into representationist errors), but wrongly opposed Locke's recognition of the existence of things independently of their being known. Hume refuted Berkeley's theory of spirit, but went back to an acceptance of "rational science" in his doctrine of relations of ideas. Kant corrected Hume's theory of spatial and temporal discontinuity and strikingly developed his theory of causality, but at the same time deviated into a confused doctrine of moral causation. Hegel, in turn, while rightly attacking the Kantian dualism, was equally if less obviously dualistic in his conception of a reconciliation or transcendence of differences in Spirit, and lost, in a flood of categories and teleological bathos, what was positive even in Kant's phenomenalist conception of science.

To say that all these were necessary errors is to say that Kant, *e.g.*, can be criticised only from the Hegelian point of view (or if we select someone else, say Fichte, as exemplifying the next "moment" in thought, only from the Fichtean point of view), which is simply not the case. We can understand Kant's position, and, for that matter, Hegel's criticism of Kant's position, only by considering what are the questions at issue, *i.e.,* only by investigating certain logical problems and seeing whether Kant was right or wrong about them. In considering these questions we are not concerned with whether Hegel ever lived or not; and even if it was he who had shown us how to criticise Kant, he could have done so only by showing where Kant was wrong, *i.e.,* by leading us not to the adoption of an "outlook" but to the recognition of certain truths—not *Hegelian* truths but objective facts.

This is not to say that the study of historical connections, of the influence of one man's theory on another's, is not a good thing. But one of its merits is just that it enables us to get over "illusions of progress". Not the least of the reasons for studying the Greek philosophers is that they are far clearer on many questions than modern philosophers, that they avoid many modern errors, and especially that they are not, like the moderns, obsessed with "the problem of knowledge"—that they do not set out to discover (*i.e.,* to know!) how, or how much, we can know, before they are prepared to know anything. This "criticism of the instrument" amounts to scientific defeatism, and the instrumental view of mind has both prevented a knowledge of minds themselves and hampered direct inquiry into logical and other scientific problems.

Now it is part of the value of Hegel's work that he attacked such utilitarian conceptions, that in his theory of "the thought in things", he recognised that minds and what they know are subject to the same logic. But he was sufficiently infected by the doctrines he opposed to recognise an initial opposition which had to be overcome, a transcendence of differences and a resultant unity. On this theory, then, in place of the logical recognition of distinctions, relation (*e.g.,* between a mind and something it knows) was illogically treated as union, as precluding or overcoming distinction. Differences had then to be reinstated as aspects of or moments in the whole, each expressing the whole in a certain degree or with a certain intensity, though it could not be shown how they did so, any more than the nature of the *passage* from one moment to the next could be demonstrated. (A similar point arises in connection with Leibniz's theory of perception and appetition). The recognition of the interaction of distinct things, of things as complex and active, of history, requires the rejection of transcendence and expression, of the Absolute and its aspects, of the philosophy of Spirit or of Matter.

It is in laying the foundations of a logic of things as historical that Kant is important, and in relation to this part of Kant's theory Hegel can be regarded only as reactionary. He undoubtedly brought out some of Kant's inconsistencies, but he came down on the wrong side, and his influence was such as to close the main path that Kant had opened up. Kant showed, as against Locke, that the objects of science are just the objects of observation, that "matter" (that which is treated of in physics) is what we perceive and not something behind it. He showed as against sensationalism (a rationalist doctrine miscalled "empiricism") that connections and distinctions among things are known *along with* things. And he thus showed how science could be other than a matter of guesswork, as, on the doctrine of Berkeley (more consistent than the other upholders of "ideas"), it would have been.

Nevertheless, and even apart from occasional concessions to this very doctrine of ideas, Kant was sufficiently imbued with the assumptions of his predecessors to take that field of science (things in Space and Time, with the characters and relations which this implies) as only a result of the application of the conditions of knowledge to certain postulated material. The objects of physical science, found by us in a historical medium, are merely "phenomena" and not things themselves. It may be pointed out in criticism that, as soon as we try to think of a relation between things themselves and phenomena (or between mind and the phenomena it knows), we have to think of it as spatio-temporal; in talking of things themselves at all, we are bringing them under the categories which are said to govern phenomenal existence. Hence the solution of the Kantian division in reality is just that the objects of observation *are* things themselves, and that we ourselves are also such things, existing under the same spatio-temporal conditions as other things, and, under these conditions, entering into relations with them (being *in the same situation* as they are) whereby we can know them. Such an empirical development of Kantianism, while showing how positive science is possible and what is the field of a positive logic, incidentally does away with the peculiar "problem of knowledge". Historical situations in which A knows X will be possible objects of study on the same footing as other historical situations.

Hegel, however, did not make this philosophical advance but side-tracked it. He "did away with" the difficulty of a divided reality by taking the different types of reality as moments within a spiritual whole, different aspects of a unity, reconciled within that unity. Thus the division is retained and at the same time "overcome"; Hegel takes the typically idealist line of having things both ways. In support of the "union of the diverse" it is argued quite properly that there can be no object without a subject and no subject without an object. This is to say that, whenever knowledge occurs, there is both something which knows and something which is known. But that does not imply that these are not distinct things, that they are aspects of a totality, mental or otherwise; it does not imply that a non-mental thing need be an object (need be known), or that mind (or anything capable of knowing) cannot be an object. There is, then, no "union" in the matter and no question of "aspects".

Hegel, like Berkeley, certainly did good work in attacking representationism, *i.e.,* the view that the mind has "ideas" which symbolise "outside things". But his solution, like Berkeley's, is itself representational; each factor in a situation becomes an aspect or expression of the whole, is the situation "raised to a certain power" though not completed. Hence thought, instead of being regarded as a relation, is regarded as a certain essence or spirit which can be expressed, with different degrees of adequacy, (*a*) in minds, which can think and which are thus "thought at the subjective level", and (*b*) in things which can be thought and are thus "objective thought" (or objective mind). Expressing the whole, these forms of thought at the same time, and on that account, express one another; they are "powers" of one another and of the whole. Now this doctrine is clearly otiose or "metaphysical", because, in order to say *what* power of Spirit anything is, we have to state it in its own character (*e.g.,* Space will be the *spatial* power of Spirit.). At the same time, in making things "signify" one another, it denies independence, and leads to just such a division between immediate data and meanings as is found in the most crudely representationist theory.

While it may be said, then, that the doctrine of "objective mind" permits, up to a point, of the study of things in their own character and thus of the development of positive science, it does so to a less extent than Kant's doctrine, since Space and Time are put on the same footing as any quality of things, *viz.,* as powers of mind; and the demand for an underlying "spiritual significance" of every event, and for "spiritual necessity" linking events, can only have the effect of bringing science down to the level of theology or guesswork (*εἰκασία*).

This is an outstanding defect of the Hegelian philosophy—that every new historical fact alters logic by introducing a new "logical moment" or category, and since each problem is that of understanding reality "from a certain point of view", we have no means of making any problem precise.[1]

A secondary, though serious, defect of the doctrine of objective mind is its implication that minds are not specific things, the distinction between the mental and the non-mental being the one which suffers most in the attempted removal or transcendence of all distinctions. This incidentally renders obscure the description of the Absolute as mental. Indeed the illogical character of any Monism comes out in any attempt to describe the One, to show how it can have aspects at all, let alone the particular aspects it is said to have—how, so to speak, there can be a distinction without a difference. Thus, confusions as to mind apart, the illogicality of the Hegelian position is most clearly seen in the general conception of the reconciliation of opposites, or of questions to which the answer is *both yes and no.* A sufficient rejoinder to such attempts to have things both ways is that "No" means "*Not* Yes", as is indicated by the fact that we can intelligibly say that the answer is *not* both yes and no. The person who says "No" to Hegelianism is not at the same time saying "Yes". In fact, exposition of the Hegelian philosophy brings it under the conditions of discussion, in which issues have to be settled one way or the other, and permits its playing fast and loose with logic to be shown up.

It may be asked, then, why so clearly illogical a doctrine as the denial of direct negation should have been so influential. It could not influence the development of science except to retard it, but the fact that it has retarded science and especially psychological science still wants explanation. The answer is that Hegelianism has to be met, that it can be met only by the abandonment of all idealistic or totalistic notions, and that this requires the abandonment of any form of rationalism. The impossibility of an aggregation of elements or "whole natures" is shown in the Hegelian criticism of associationist psychology, as it was originally shown in the Eleatic criticism of the Pythagorean units. So long, we may say, as any "ultimate" is recognised, whether it be a purpose, an essence or a totality, real distinctions, the existence of independent things, cannot be. And this is borne out by the prevalence in the sciences, not only of rationalistic and teleological or instrumental conceptions, but of conceptions of "the whole", of Nature and the like. Thus, whatever professions of "starting from the facts" may be made, the transcendence of differences is still the chosen and hopeless task.

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[1] Hegel's demand for a "criticism of categories" is, it may be said, in accordance with sound logic. But such criticism should take the form of a *rejection* of unsound, relative conceptions (striking examples of which are found in ethical theory in the notions of "right", "happiness" and the like), and not of the relegation of a defective conception to a supposed "level of reality" to which it is "adequate". In the same way Berkeley is thoroughly philosophical in rejecting the relative conception of matter as *that whereby* we have our ideas, but is unphilosophical in retaining the relativist conception of "our ideas".

The only serious answer, then, to the assertion that the universe is spiritual, is that there is not a universe. If all things were aspects of the One, the One could just as much, though just as little, be called mental as anything else. Hence any doctrine of "the physical universe", any "materialistic monism", can no more provide an answer to Hegel than any form of atomism can. Only a thoroughly pluralistic doctrine, a logic which, in its application to psychology, will eliminate the totalistic conception of The Mind, can meet and overturn the position of Hegel. And such a doctrine has not yet been set up by Hegel's successors and critics. The "positive philosophy" of Comte showed the possibility of it, but Comte was still teleologist enough to take a merely instrumental view of mind and to recognise stages in a universal history. Strains of rationalism are also observable in the work of the various writers previously mentioned, even though, by taking what is valuable in each, we can construct a coherent anti-idealist position.

These considerations emphasise the necessity of abandoning the vulgar, optimistic doctrine of progress and recognising that things, including philosophy, can regress; though, this being admitted, it may still be found that, in the development of certain things, progress has been made. We have to recognise *accident, i.e.,* the fact that there is no formula, no "principle", which covers all things; that there is no totality or system of things. And this recognition at once supports a life of "responsibility and adventure" and leads to scientific discovery. We are unscientific if we take the Hegelian view that the end is present in the beginning; the doctrine of potentialities, while it denies real development, enables us only to parade our wisdom after the event. But we are equally unscientific if we say that the beginning is present in the end, that a thing is what it comes out of, instead of what it has it in it to become. We are giving no account of mind if we say that it is an "epiphenomenon" or a mere "property" of matter; we do not solve psychological problems by the simple assertion that thought is a function of the brain. *What* property, *what* function, is the question. If we are going to solve problems on a basis of identity, we may indifferently make our identification in one direction or the other. Evolutionary rationalism of this kind is sufficiently met by the Hegelian demonstration that mind must be something, even if Hegel wrongly takes it as something teleological (something with a reconciling mission) and himself upholds a philosophy of identity and a one-track development.

What is required for the emancipation of psychological science, in particular, from identity-mongering is the abandonment of the notion of "thought", as something either to be contrasted or to be identified with things. Our thoughts are just our dealings with things; and this pragmatic view, developed to some extent by James and at least suggested by Marx, enables us, setting things on the level of historical facts, to stress that in which scientific objectivity is to be found, *viz.,* the proposition. "The thought in things" can usefully mean not any ultimate or cosmic significance, not any evolutionary purpose, but only their propositional and consequently assertible character. Whether *we* assert or recognise any particular fact or not depends on our character and our historical situation, *i.e.,* depends on our being here and such, while it is there and so. The recognition of a single logic of events, of complex things interacting in Space and Time, disposes at once of the logic and of the psychology of "thought".

For an answer to Hegel, then, we have to drop epistemology—the intrusion of mind into logic and of a false logic into psychology—and return to the Greek consideration of *things,* as Burnet, no less than the English realists, assists us to do; we have to develop a positive theory of mind as feeling and as multiple, on the lines suggested by Freud; we have to be empirical, like James, and to recognise Space and Time as the conditions of existence, as is done by Alexander, largely under the influence of Kant. Doing this we can reject significance and purpose and any single "stuff" of reality, whether matter or spirit. We find such notions, in whatever form they appear, to be on the same level of romanticism as Hegelian formulæ like "the end is present in the beginning", "the truth is the whole", or "the real is the rational"—*i.e.,* they are all solutions *on a higher plane* than the problem, and so are denials of the problem. Romanticism, whether it seeks to uplift or to reach profundity, is always of this intellectually defeatist character.

Certain main points, which, of course, could be more fully and exactly treated, emerge from this brief consideration of Hegel's place in the history of philosophy. We find that only a pluralistic logic of events can provide a logical answer to idealism, and that rationalism, in science and philosophy, opens the way to monism and this again to scepticism—theology, defeatism, leaving things in the hands of higher powers. We find, further, that history is not progress, that the history of speculation, in particular, is not a progressive discovery of truths and removal of errors, an outstanding illustration being that the idealistic errors of Kant, akin as they are to the errors erected by Hegel into a system, did not prevent him from utilising empirical material and working out a logic of events which was not developed but only obscured by Hegel. It may also be pointed out that the most widely prevalent contemporary philosophies are varieties of representationism, more or less similar to Locke's, in spite of the decisive refutations of Locke's view that have been formulated by philosophic thinkers from Berkeley onwards. This failure to progress in philosophy indicates that it is not sufficient for a rejection of representationism to have gone through the stage of Hegelianism, nor is it necessary, as we see from a consideration of the commonsense realism of the Greeks.

But the denial of the doctrine of progress does not prevent us from recognising the occurrence of discoveries and other good things. So the baneful effects of the anti-logic of Hegel, his encouragement of mystification in the doctrine of reconciliation of opposites and the cult of profundity, his provision of a sounding and worthless terminology for the theologically-minded and the literary moralisers, his detrimental influence, in opposition to precision and to independence of thought and action, on culture in general—all this should not keep us from seeing that inquiry has here and there been stimulated by his attempt at finding a single logic and his insistence on the historical treatment of things, and even by his merely drawing attention to the work of his predecessors. But to say, in the face of all the obscurities and confusions he introduced, that he represents a "necessary stage" in the history of philosophy, is to be wise, like Hegel himself (or like "the owl of Minerva"), after the event; it is to be, like him, opposed to precision, to the investigation of *the independent issue*, the proposition; it is, in fact, to be unscientific and unhistorical.

The philosophy of aspects is not an aspect of philosophy, though philosophers may learn much from studying it and may see more clearly, in considering its influence, what is and what is not a refutation of it. And this will help them to see that philosophy is not "the history of philosophy" but is a certain subject to be studied, that the philosopher's business is the enunciation and demonstration of philosophic truths, and that these truths do not progress.

AN EXAMINATION OF PSYCHOLOGICAL HEDONISM.[1]

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I.

By Psychological Hedonism I propose, to begin with, to understand the doctrine that nothing is or can be desired but pleasure. Now to desire is to aim at an end. What the doctrine asserts, then, is that the end of all desire, what we aim at or seek, and alone can aim at or seek whenever we desire, is pleasure. Is this the case?

Desire involves, on the one hand, dissatisfaction with the actual or some aspect of it, and, on the other hand, the idea of something not yet actual as having the character which the actual lacks, and therefore satisfactory and satisfying. Now the dissatisfaction as such is unpleasant. On the other hand the satisfaction, when attained, is pleasant or gives pleasure. As soon as we become aware of this fact, while experiencing the unpleasantness of the unsatisfied desire, we anticipate that the satisfaction of the desire will give pleasure, and find this anticipation pleasant now.

It would seem, then, that desire, while still unsatisfied, may involve a threefold relation to pleasure-pain.

(1) The unsatisfied desire is as such unpleasant.

(2) We anticipate that the satisfaction of the desire, or in other words the attainment of the end or object at which it aims, will give pleasure.

(3) This anticipation gives us pleasure now.

The position, however, is liable to be, and no doubt normally is, further complicated by the experience of what may be called *pleasures*[2] *of enjoyment, i.e.,* pleasures which, though experienced in the course of satisfying the desire in question, do not indirectly arise out of, or depend upon, the satisfaction of that desire. These pleasures seem to be of two main kinds.

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[1] Though my interest in the subject led me to work it out, I hesitated to write this article, because I doubted whether anyone else would be interested in another criticism of this much discussed subject, until I read Mr. Piddington's interesting defence of the doctrine in Vol. ix, No. 4 of this Journal. I hesitate no longer. A doctrine which has defenders is worth criticizing. At the same time, it should be noted that my paper does not profess to be a direct examination of Mr. Piddington's position.

[2] When I speak of "pleasures" I do not intend to imply (nor do I now wish to deny) that pleasure *qua* pleasure, or without reference to the source of the pleasure, is of different kinds. I will use the plural only where a difference of source is implied. But I do not wish to offer any opinion on the question of whether or not that is the only justification for the use of the plural.

(1) In the first place there are the sensory and æsthetic pleasures which are experienced in the course of satisfying the desire in question, but the experience of which does not presuppose the satisfaction of that desire. If, for instance, the desire in question is simply to see a person who lives in another part of the country, the pleaure which during the journey I derive from experiencing the beauty of the landscape, the colour of the flowers, the spring sunshine, the gliding motion of the car, or the song of the birds, will represent, with reference to that desire, pleasure of enjoyment. A special case under this head is what might perhaps be called "pleasure of luxury". For instance, if the desire in question is simply to satisfy my hunger or quench my thirst, the pleasure I derive from eating tasty or dainty, as opposed to merely nourishing, food, or the additional pleasure which I derive from a cup of tea or glass of wine as compared with water (which would suffice to quench my thirst), represents, with reference to that desire, pleasure of luxury.

(2) In the second place, there is the pleasure of activity which is experienced in the course of satisfying the desire in question, but which does not represent an element in the satisfaction of that desire. Such pleasure may arise from the exercise of any of our faculties. Under this head would fall the pleasure which I derive from the exercise of my muscles in walking to my friend's place simply in order to see him, or the pleasure which I derive from the intellectual activity involved in working out a problem, when my desire is simply to know the solution.

In desiring any object we may anticipate that, in the course of attaining it, we shall experience pleasures of enjoyment, and find this anticipation pleasant now. In such cases, our previous account of the relation in which unsatisfied desire stands to pleasure and pain requires to be amplified as follows:

(1) The unsatisfied desire as such is unpleasant.

(2) We anticipate that (*a*) the satisfaction of the desire or attainment of its object will give pleasure, and (*b*) that, in the course of attaining it, pleasure of enjoyment will be experienced. I shall speak of the former as *pleasure of attainment,* and of both together as *anticipated pleasures.*

(3) Both these anticipations are pleasant now, *i.e.,* (*a*) the anticipation of the attainment of the object and resultant

pleasure gives pleasure now; (*b*) the anticipation of experiencing pleasure of enjoyment in the course of attaining it is pleasant now. I shall speak of these present pleasures as *pleasures of anticipation.*

Before raising the question whether the fact that unsatisfied desire is related to pleasure in the two ways mentioned under the second and third heads justifies the contention of of Phychological Hedonism that we desire nothing but pleasure, we must, in order to anticipate a possible objection, take into account another point. Where I proceed to will the object, we may say that *it pleases me* to do this. Now, strictly speaking, as has often been pointed out, this means, not that the doing of it is pleasant (*amoenum est*) or gives me pleasure, but that I choose or will (*placet*) to do it. But, it might be urged, this distinction is really superficial, because to say that I choose to do it really means that I find the doing of it, in the present circumstances, is more pleasant, or gives me more pleasure, than would the doing of anything else.

Now no doubt it is often true that I get more pleasure from doing what I choose to do than, in the circumstances, I would get from doing anything else. It is likely to be true whenever, or so far as, what I choose to do, is what I am satisfied I ought to do. For, in that case, if I were to do anything else, the pain resulting from the knowledge that it was not what I ought to do would probably outweigh any pleasure I derived from doing it. But the fact that I find the doing of what I choose to do more pleasant than I would the doing of anything else does not mean that to choose to do something *is* simply to find the doing of it more pleasant than the doing of anything else. Further, even if to choose a thing were the same thing as finding it pleasant, that would not imply Hedonism as defined above, for it would not mean that we desire nothing but pleasure. It would mean that all willed action is determined by present pleasure—a view which will be discussed later. But, as a matter of fact, the most that it seems intelligible to say is that it is because I find the doing of it more pleasant than the doing of anything else that I choose to do it.

Now "because" is ambiguous. It may indicate either an end or a cause, or, in other words, either a final or an efficient cause. In the first case we would be saying that I choose to do it in order to attain the pleasure of doing it. This really amounts to the contention that, whatever we do, what we really seek is pleasure. So far it is simply a reiteration of the Hedonistic thesis. It is obvious, however, that the pleasure here in question will not fall under any of the heads we have so far distinguished. It is an instance of what I shall later speak of as *pleasure aimed at*. The question raised then is: Do we desire nothing but pleasure aimed at? We shall discuss this question later. In the second case we would be saying that the pleasure of doing it causes us to choose it. (I shall speak of this alleged pleasure as the *pleasure of doing it*[1]). This, however, does not imply Hedonism in the sense defined, for this asserts, not that pleasure is the cause of desire, but that it is the end at which desire aims. The view that pleasure is the cause of desire will be considered later when we come to consider a second definition of Hedonism.

For the present it is sufficient to have seen that even if we admit (what in fact is not the case) that "it pleases me" means "it gives me pleasure", the fact that we can say, of anything that I choose to do, that it pleases me to do it, does not forthwith justify the Hedonistic thesis. Instead, it either simply reiterates that thesis in a more specific form, or else it states another thesis incompatible with Psychological Hedonism as we defined it.

II.

We can now return to the question: Does the fact that desire is related to pleasure in the two ways previously indicated justify the contention of Psychological Hedonism that we desire nothing but pleasure?

It is obvious that the fact that it involves the pleasures which fall under the third head, the pleasures of anticipation, lends no support to the Hedonistic thesis. For these pleasures are not something we aim at, not something we as yet have not but strive to attain, but something we already have. Now obviously you cannot make your end or strive to attain, and therefore cannot desire, what you already have. This is true even where you strive to retain something you already have, for here your end is the future or continued possession of the thing, and that is not something you already have.

It may be objected that, though the pleasures of anticipation are not the end which I seek, nevertheless it is because of them that I seek to attain the object. This statement, as we pointed out before, can be interpreted in two ways. It implies

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[1] This must not, of course, be confused with what we would ordinarily speak of as the pleasure of doing it. This would consist partly of pleasure of attainment and partly of pleasure of enjoyment. *Pleasure of doing it*, as I am using the term, represents nothing but a fiction—namely, the pleasure which would be the cause of our choice if *placet* meant (what, in fact, it doesn't) that pleasure caused our choice.

Psychological Hedonism (in the sense defined) only if it is interpreted as meaning that the attainment of the object is simply a means to the pleasure of anticipation as the end. Now that is absurd. For it would make what I have not yet got, but am striving after, a means to what I now have, but will no longer have, and cannot regain, when I attain the means to it. For, as soon as I attain the object, the pleasure which I now feel at the prospect of doing so will have ceased. The only intelligible interpretation of the statement is that it is the pleasures of anticipation which cause (where cause refers to the *efficient* cause) me to seek to attain the object. As thus interpreted, however, far from supporting the doctrine of Psychological Hedonism as defined above, it would rob that doctrine of all importance. For the question whether or not we desire nothing but pleasure is important only so long as desire is regarded as playing a fundamental part in determining our actions. Now that cannot be the case if our actions are determined by present pleasures. For, if that were so, desire would at best be the instrument by means of which these pleasures determined our actions. This view will be considered later when discussing Psychological Hedonism as defined in a second way.

The fact then that, while the desire in question is still unsatisfied, we may experience pleasures of anticipation lends no support to the Hedonist's contention that we desire nothing but pleasure. It would do so only if the desire in question were desire for the pleasures of anticipation. And that, we saw, is impossible. On the other hand, it does lend a certain plausibility to the doctrine. For, normally at any rate, pleasures of anticipation, though not the object of that desire, do strengthen the desire which gives rise to them. For they tend to keep the object of desire before the mind, and attention to the object tends to strengthen the desire. Now that in virtue of which the desire attains its strength may, with some show of plausibility, be regarded as its object.

We pass, then, to the pleasures which fall under the second head, the anticipated pleasures, and take first the pleasure of attainment. Does the fact that we anticipate that the satisfaction of the desire or attainment of its object will give pleasure imply that we desire nothing but pleasure? It would do so only if the object of the desire were the pleasure which the attainment of that object brings. And that is obviously impossible. For the pleasure presupposes, and so cannot be, the object of the desire. If my object is pleasure, it must be pleasure other than the pleasure of attainment, which the attainment of my object brings. If, then, we assume that pleasure may be the object of my desire, we must distinguish between that pleasure, which I shall speak of as *pleasure aimed at,* and pleasure of attainment. Now that which, with respect to any particular desire, is pleasure of attainment, cannot, with respect to the same desire, be pleasure aimed at, though, as we shall see later, it may be pleasure aimed at in respect to another (and secondary) desire. To identify the pleasure of attainment with the pleasure aimed at, would be to maintain that your object is to attain the pleasure which the attainment of your object brings. And that is obviously absurd. If, then, pleasure is an object of desire, it must be, with respect to that desire, not pleasure of attainment, but pleasure aimed at.

You might object that it is because of the pleasure of attainment that we desire the object. Now, seeing that the pleasure of attainment is subsequent to the desire, that can only mean that it is for the sake of the pleasure of attainment that we desire the object, *i.e.,* that the object is desired as a means to the pleasure of attainment as end. The ambiguity of the word "object" lends some plausibility to this contention. If you think of the object of the desire, not as the end of the desire, but as some state of affairs, then it is quite intelligible to seek to attain that state of affairs as a means of attaining the end you desire. But to do that is of course not legitimate. The object of desire means the end desired. Consequently, what the contention really amounts to is this: the end is desired as a means to the end—which is obviously absurd. Again, turning to the facts, it is obvious that what is primary and fundamental is not, as the objector suggests, the pleasure of attainment, but the desire for the object. We do not desire the object for the sake of the pleasure of attaining it; the attainment is pleasant because, and only because, we desire the object. We must, therefore, reiterate our conclusion that the pleasure of attainment is never the object of the desire out of the satisfaction of which this pleasure arises.

We come then to pleasures of enjoyment. Does the fact that we anticipate that in the course of attaining our object, pleasures of enjoyment will be experienced, imply that we desire nothing but pleasure? It would do so only if the object we desired were the attainment of the pleasures of enjoyment we expect to experience in the course of attaining our object. And that is obviously impossible; our object cannot be, as this would imply, something incidental to the process of attaining our object. Nor can we say that it is for the sake of the pleasures of enjoyment that we desire the object. That also would imply that the object desired was a means to the pleasure as end, *i.e.,* that the end desired is a means to the end desired. Once again the fact is that what is fundamental is the desire of the object. It is the attempt to satisfy this desire which gives rise to the pleasures of enjoyment. These are merely incidental to the process of attaining the desired object.

So far as anticipated pleasures are concerned, then, the position is that neither the fact that we anticipate that the attainment of the desired object will give pleasure, nor the fact that we anticipate that in the course of attaining it pleasures of enjoyment will be experienced, gives any support to the view that we desire pleasure, let alone to the view that we desire nothing else. What these facts do show is that the object of desire cannot be either of these pleasures. If the object of desire is pleasure, it must be pleasure which, with respect to this desire, is pleasure aimed at.

III.

What the supporter of Psychological Hedonism (as we defined it) must show, then, is that pleasure aimed at is the only object of desire.

Now it is obvious that this does not invariably appear to be the case. There are what Butler called "particular propensities", and we style variously appetites, passions, instincts, impulses, which have every appearance of aiming at, or causing us to aim at, not pleasure but particular objects. For instance, hunger seems to lead us to desire to eat food, thirst to desire to drink something which will quench our thirst. Now the Psychological Hedonist is not justified in maintaining his doctrine until he has explained away this appearance.

The only way, so far as I can see, in which he can attempt to do this is to maintain that what we really desire is, not the particular object as such, but the pleasure to be found in it—not, for instance, the eating of food, but the pleasure of eating food. Now, as this does not seem to be the case—the object of the desire for food seems to be simply the eating of nourishing food—the onus of proof is on the Hedonist. Again, we must ask him to remember that the pleasure in question cannot be either pleasure of attainment or pleasure of enjoyment; it must be pleasure aimed at. For we have already seen that the pleasure which is the object of a desire cannot be, with reference to that desire, either pleasure of attainment or pleasure of enjoyment. (It is, I take it, sufficiently obvious that it cannot be pleasure of anticipation.) In the case of the desire for food, it cannot be either the pleasure of attainment incidental to the satisfaction of our desire, nor the pleasure of enjoyment which arises in the course of satisfying it, as for instance the pleasure which results from the fact that the food is not merely nourishing, but is tasty or eaten in congenial surroundings or company. These pleasures, though they may be the objects of other desires experienced at the same time, cannot be the object of the desire for food (understanding by "food" simply "that which is necessary to satisfy my hunger"). Yet these pleasures, so far as I can see, are the only pleasures of eating; I can discover no pleasure which is pleasure aimed at by the desire for food. The object of this desire is what it is ordinarily taken to be—the eating of nourishing food—and that is not pleasure.

Now what is true in regard to the desire for food, is true in regard to all "particular propensities". Apart from the pleasure of anticipation, which, as present, obviously cannot be the object of desire, there is, I suggest, no pleasure except pleasure of attainment and pleasure of enjoyment. If, then, there is to be any such thing as desire of pleasure, it must be desire of either pleasure of attainment or pleasure of enjoyment. But, we saw, the desire for the pleasure of attainment, to take that first, cannot be the desire for the object, the attainment of which gives rise to the pleasure. It must be a secondary desire for the pleasure which results from the attainment of the object of the primary desire, the desire for the object of the "particular propensity". Consequently, the undeniable fact that we do desire pleasure of attainment, far from implying that we desire nothing but pleasure, implies just the opposite, for, being secondary, it presupposes primary desire, which is not desire for pleasure of attainment. I said it implies the opposite; I should have said that it does so unless it is true that all primary desire is desire for pleasure of enjoyment.

But the fact is that desire for pleasure of enjoyment can be primary only where, or in so far as, it is not incidental to the process of attaining, or attempting to attain, some object of desire. For where it is incidental to this process, it presupposes the desire of that object, and therefore is secondary. On the other hand, if experience which does not result from the attempt to satisfy some desire occurs and gives rise to pleasure of enjoyment, the desire for that pleasure, if it occurs, will not presuppose any other desire, and so will not be secondary but primary. Consequently the contention of Psychological Hedonism that we desire nothing but pleasure will be true only if all primary desire is desire for this pleasure of enjoyment which is not incidental to the process of satisfying some (primary) desire. Any primary desire which was not desire for this pleasure would necessarily be desire for something other than pleasure. Now, far from it being true that all primary desire is desire for this pleasure of enjoyment which is not incidental to the process of satisfying some desire, it seems somewhat doubtful whether desire for this pleasure occurs at all. If it does occur, it is certain that it plays no great rôle in experience. Consequently, we can certainly say that in the main desires for pleasure are secondary; they presuppose, and are impossible without, primary desires, the objects of which are not pleasures. It is these latter which are fundamental; without them the secondary desires would never occur.

On the other hand, so far as the secondary desire cannot be satisfied unless the primary desire which it presupposes is satisfied, the secondary desire will reinforce the primary, for so far the satisfaction of the primary desire could be regarded as an indispensable means to the satisfaction of the secondary. Again, it seems likely that, at any rate in the adult, primary desire is always accompanied by secondary. The strength of the one and the other, and the importance which the individual attaches to the satisfaction of each, probably varies from case to case, and from individual to individual. Some individuals usually, and perhaps most individuals in some circumstances, probably experience more strongly, and attach more importance to the satisfaction of, secondary desires. Such individuals are so far pleasure-seekers. But that does not imply that for them or in those cases, the doctrine of Psychological Hedonism is valid. For the pleasure at which the secondary desire aims is possible only so long as the primary desire persists and remains such, *i.e.,* is desire for a particular object as such and not as a means to pleasure. Unless I desire the object for its own sake, its attainment gives me no pleasure. Hence arises the so-called Paradox of Hedonism. If you concentrate unduly on the attainment of pleasure you will inevitably fail to attain your end. For if you thus allow the secondary desire for pleasure to overshadow or displace the primary desire, you so far destroy the object at which secondary desire aims. For the pleasure at which it aims can arise only if you desire the particular object, and, for any particular object, is largely proportionate to the strength of the primary desire. Consequently, so far as the desire for pleasure displaces or weakens the primary desire, it will defeat its own end. Hence it cannot even be maintained that though originally desire for particular objects is primary, in later experience this is superseded by secondary desire. Secondary desire presupposes present experience of primary desire.

On the other hand, the fact that secondary desires probably always accompany and reinforce the primary desires, and in some individuals usually and perhaps in all individuals sometimes overshadow them, does lend a certain plausibility to the doctrine of Psychological Hedonism. All that is necessary to persuade yourself of the truth of this doctrine is, either to overlook the presence of the primary desire to which the desire for pleasure is secondary altogether, or else (wrongly) to regard its object as only a means to the attainment of the pleasure at which the secondary desire aims. These mistakes are facilitated by the fact that we do not normally distinguish between the two desires. Indeed, it seems somewhat doubtful to what extent it is possible to distinguish them by introspection. But even if it is altogether impossible to do so, that fact does not imply that the distinction is not legitimate, or invalidate our argument.

It may be said that it is illegitimate to speak of two desires, if we do not, and by introspection cannot, distinguish between them. The objection, though strictly speaking perhaps not altogether unjust, is not important. It concerns only a verbal question, and could be avoided by saying that, as a rule, what we normally speak of as "a desire" is really composed of two impulses, an impulse towards a particular object and an impulse towards anticipated pleasure. This point will be touched on again later on.

IV.

It may be objected that our rejection of the claims of Psychological Hedonism was premature, in that we have not yet considered the first way in which unsatisfied desire is related to pleasure-pain, *viz.*, the fact that unsatisfied desire is as such painful. In order that this fact should imply Psychological Hedonism, it would be necessary, firstly, to understand by Psychological Hedonism the contention that nothing is or can be desired but pleasure or the avoidance of pain (= "unpleasure"), and secondly to maintain that we desire nothing but the avoidance of pain. No exception need be taken to the extended definition of Hedonism; it really only makes explicit what was already implied in the previous definition. The question then is, Do we desire nothing but the avoidance of pain?

The phrase "avoidance of pain" is ambiguous. It might mean either (1) to avoid experiencing pain in the future, or (2) to get rid of present pain. In the first case the Hedonistic contention would be that we desire only to avoid experiencing pain in the future. But it is obvious, both that the fact that unsatisfied desire is unpleasant gives us no ground for asserting this, and also that it is not the case. If, then, it is to be implied by the fact that unsatisfied desire is as such painful, we must take the contention that we desire nothing but the avoidance of pain to mean that all desire aims simply at getting rid of present pain. In that case the end or object of all desire would be *any* future state of affairs in which the present pain had disappeared. If the end were specified in any other way than by the absence of the present pain, our desire would not aim simply at getting rid of present pain.

Now there are, I think, desires whose object is of this kind. For instance, when suffering physical pain, we may simply desire to be free from that pain as unpleasant, without otherwise specifying our end. Or we may simply desire to avoid a "painful situation" which threatens to arise, without desiring for its own sake any of the different ways of avoiding it. The desire of the youth who is threatened with a simultaneous visit from two or more lady-loves, to each of whom he has sworn that she is the only one, might well be of this kind. At the same time it is obvious that these desires are exceptional. They occur only when, or in so far as, we do not care what the nature of the future is, so long as one feature of the present is absent. As a rule, however, the end at which we aim is a specific or positively determined state of affairs. Where this is the case, it is not true that we desire only to get rid of present pain.

Can we, then, say that in these cases it is nevertheless because of present pain (resulting from the unsatisfied desire) that we seek those positively determined objects? Owing to the ambiguity of the "because" this may mean either (1) that it is in order to avoid the present pain that we seek the object, *i.e.*, that freedom from the pain is the end to which the object is sought as a means; or (2) that present pain causes (where cause refers to the efficient cause) us to seek the object. We cannot maintain the first position, namely, that it is in order to avoid the present pain that we seek the object. For in that case our real aim would still be simply to rid ourselves of the present pain. But, if, or so far as, that were the case, we would not desire the object *qua* positively determined object at all, but only as a state of affairs which was free from the present pain. We would not mind what the state of affairs was, so long as it was free from that pain, *i.e.*, the object of our desire would be simply *any* state of affairs free from this pain. But that is precisely the position which we just found to be untenable. The only plausible position, then, is the second, namely, that present pain causes us to seek the object.

But even if it were the case that it is present pain which causes us to seek (or desire) the object, that would not mean that the avoidance of pain was the end aimed at. Consequently it would not imply that we desire nothing but pleasure or the avoidance of pain, as the doctrine of Psychological Hedonism, as so far understood, asserts. On the contrary, it would rob that doctrine of any importance, for, as we saw before, that doctrine is important only so long as we regard desire as playing a fundamental part in determining our actions. If, however, it were present pain which caused us to seek the object, desire would be reduced to the status of an intermediary link between pain and action. At best it would be the instrument by means of which pain determined our actions. The real determinant of the action would be the pain.

V.

This once again brings us to the second possible definition of Psychological Hedonism, namely, the doctrine that pleasure and pain are the only efficient causes of action. This doctrine might be interpreted in either of two ways. In the first place it might be maintained that pleasure and pain determine action by giving rise to the desire for an object. (This is the view which we began to discuss a moment ago.) In the second place it might be maintained that pleasure and pain determine action directly. Let us consider these two views in turn.

Is it the case, then, that pleasure and pain determine our action by giving rise to the desire for an object? Let us first consider whether pleasure does so.

As it is now a question of the efficient, as opposed to the final, cause, anticipated pleasure and pleasure aimed at do not come in question. The only pleasure which does come in question is the pleasure of anticipation, the (alleged but in fact non-existent) *pleasure of doing it*, and pleasure previously experienced.[1]

The contention that the pleasure of anticipation gives rise to the desire is both contrary to the facts and also absurd. The fact is that the pleasure of anticipation is itself caused by my anticipation of the attainment of the desired object, or of the pleasure of enjoyment which I expect to experience in the course of attaining it, or both. Consequently the anticipation which causes the pleasure of anticipation presupposes the desire. To say, then that the pleasure of anticipation causes the desire is equivalent to saying that the pleasure of anticipation causes that which is presupposed by its own cause.

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[1] While by Hedonism we understood the doctrine that we desire nothing but pleasure, it was not necessary to take into account pleasure previously experienced, for this as such cannot be the object of desire. On the other hand it might *cause* us to desire an object or do an action.

It is equally impossible to maintain that it is the *pleasure of doing it* (if for the sake of argument we assume this to occur) which causes the desire. For this pleasure must be pleasure felt at the very moment of action. (If it were pleasure expected in the future, including the immediate future, it would be anticipated pleasure; if it were pleasure which occurred prior to the moment of action, if concerned with the action at all, it would be pleasure of anticipation.) Consequently it cannot be prior to the action. But desire is prior to the action. Hence the *pleasure of doing it* cannot be the cause of the desire.

Can we then say it is pleasure previously experienced which causes desire? The fact that on a previous occasion the performance of an action has given us pleasure is likely to lead us to anticipate that its repetition will be pleasant, and this in turn may tend to cause us to desire to repeat it. So far as it does so, it would be reasonable to maintain that the previous pleasure caused the desire to repeat the action. But (1) it is obvious that this cannot be true of the original, and therefore not (as Hedonism claims) of all actions, (2) unless the pleasure in question is pleasure of enjoyment which is not incidental to the effort to satisfy some desire, the previous pleasure presupposed some desire. Now it seems very unlikely that a repetition of the action will be desired unless this original desire recurs. But if it recurs, then the anticipation caused by the previous experience merely reinforces this desire.

We cannot, then, maintain that all desire is caused by pleasure. Can we maintain that it is caused by pain? The only pain which could in all cases cause the desire (and unless it does so in all cases the Hedonistic thesis is not justified) is the pain which accompanies the experience of unsatisfied desire. It would not meet the case merely to say that this is the pain *of* unsatisfied desire, and therefore, far from causing, presupposes the desire, for that is really equivalent to a bare denial of the thesis we are examining, namely, that it is the pain which causes the desire. We must analyse the experience of as yet unsatisfied desire.

The account we previously gave of that experience was as follows: "Desire involves, on the one hand, dissatisfaction with the actual or some aspect of it, and, on the other hand, the idea of something not yet actual as having the character which the actual lacks, and therefore satisfactory and satisfying. The dissatisfaction as such is unpleasant". Now, you may say—indeed, to justify the thesis that it is the pain which causes the desire, you must say—that our dissatisfaction with the present is simply the feeling of pain which the present situation arouses in us, and this causes us to desire a different situation in which those characters in virtue of which the present situation is painful are absent. Does this represent a true account of the experience?

(1) There seems to be as good reason to say "we experience the present situation as painful because we desire a different one" as for saying "we desire a different situation because we experience the present one as painful", *i.e.*, to say desire is primary and causes the pain, as to say pain is primary and causes the desire. Nor can it be said that psychologically it is preferable to make pain primary, because it enables us to gain a better understanding of the nature of experience. This would be the case only if: (1) we could see how pain causes desire in a way in which we cannot see how desire causes pain; (2) we could understand the nature of pain, or why we experience pain, to an extent to which we cannot understand desire or why we desire. But, I suggest, with the exception of those cases in which we recognize that what we desire is only to be rid of a present pain, these conditions are not satisfied. There seems, then, to be no reason for accepting the suggested account of the experience. But there are reasons against doing so.

(2) It would mean that desire was essentially subsidiary, and that its object had value only as a means to removing painful feeling, *i.e.*, not as being itself, but only as being other than the present painful situation. Consequently the only positive thing (as opposed to the negative removal of pain) that the pain could cause us to desire would be *some* alteration of the present painful situation; it could not cause us to desire a specific alteration. Any situation, from which the character in virtue of which the present situation is painful was absent, would serve as well as any other. The object of desire would be simply any situation other than the present one. Now, as we argued before, the very fact that those desires, whose object is acknowledged to be of this nature, are also recognized as special cases, is sufficient to show that not all desire is of this nature.

(3) So far we have accepted the contention that our dissatisfaction with the present is simply the feeling of pain which the present situation arouses in us. But as a matter of fact, if pleasure-pain stands simply for feeling as exclusive of conation (as it must, if pain is to be the cause of desire), then dissatisfaction cannot simply be identified with pain, and satisfaction with pleasure. In addition to feeling, satisfaction and dissatisfaction include conation. To experience a

situation as unsatisfactory is not merely to feel pain, but also to experience an impulse to change it, and where it is recognized as unsatisfactory, to desire to change it. To regard an idea as satisfactory is not merely to find it pleasant (or find pleasure in entertaining it) but to desire to bring it into existence.

We can now see that the suggested analysis of the experience of unsatisfied desire is doubly false. In the first place it is not true that the dissatisfaction with the present is simply a feeling of pain, and secondly, seeing that conation or desire is an element in the experience of dissatisfaction, the dissatisfaction cannot be the cause of the desire.

But, it may be said, this reply, by defining dissatisfaction to cover conation as well as feeling, misses the real point altogether. The point is that it is the feeling (pain) which causes the conation.

The objection is not justified. In our first and second arguments we accepted the identification of dissatisfaction with pain. Consequently, it was precisely against the objector's present position that those arguments were directed. Briefly those arguments came to this: In most cases there is no more reason for regarding the pain (feeling) as causing the desire (conation) than for regarding the desire as causing the pain. But in most cases there is good reason for denying that the pain causes the desire. For though the pain could cause us to desire *some* situation other than the present one, it could not cause us to desire (as we usually do) a positively determined situation. The fact that in those cases in which the pain is regarded as primary, the object of desire is simply any situation other than the present one, may be regarded as a sort of negative instance confirming our contentions. Where we desire a specific or positively determined object, then, we cannot regard the pain as causing the desire. On the other hand, I do not think that the pain is caused by the desire. Neither feeling nor conation is derivative from the other; each is an essential and ultimate aspect of the experience which we ordinarily describe as one of unsatisfied desire, and which results from, or perhaps rather is a manifestation of, the fact that we have needs which it is our nature to seek to supply.

VI.

We cannot, then, maintain as a universal principle (and that is what Hedonism requires) that pleasure and pain determine action by giving rise to the desire for an object.

Can we then maintain that they determine our actions directly? Let us take pleasure first.

Anticipated pleasure cannot operate as an efficient cause. Pleasure of anticipation presupposes desire, and so cannot be regarded as the cause of the action, though it may be the means or instrument through which the desire operates. Previous pleasure resulting from similar action in the past, so far as it operates by causing us to desire a repetition of it, does not come in question. So far as it operates by causing a disposition to repeat the action, it comes in question only if by "directly" we understand "otherwise than by giving rise to the desire for an object". But in any case it can apply only to repetitions, not to original, and therefore not (as Hedonism requires) to all, actions. We are left, then, with the alleged *pleasure of doing it,* and the pleasure of attainment and pleasure of enjoyment which has already been experienced at any stage in the action. These might cause the continuance of the action, though we cannot see how they could do so directly; they certainly could not originate it, for they cannot be prior to it, or guide it once it has commenced.

It is equally impossible to maintain that pain directly determines all actions. The only actions which, so far as I can see, are directly caused by pain are those which are caused by organic pain (and then only if we are prepared to assume that it is the "unpleasure" of the organic pain which causes the action), *e.g.,* when we drop an object which burns our fingers. The only way of maintaining that all action is directly determined by pain, would be to assert that, where we think that we act in order to satisfy a desire, or an observer thinks that we act in order to achieve some end, we are really driven to act by the pain we are experiencing. And that is an assertion which it is useless examining. If it were true, argument would be impossible. But to argue that argument is possible is surely futile.

VII.

We have now examined the various ways in which it seems possible to interpret Psychological Hedonism, and found that none of them is tenable. In this final section I hope to make more obvious the insufficiency of that doctrine by exhibiting what I have called primary and secondary desires in their true perspective within experience.

We earlier rejected the view that primary desires are, in the experience of the adult, superseded by secondary desires. What is true, however, is that, in the experience of the adult, both primary and secondary desires, though they are not exactly superseded by, nevertheless are to a greater or less extent subordinated to, incorporated in, and transformed by, a single desire, the desire of self-satisfaction. The "desires" which we previously discussed, and divided into primary and secondary, are, at any rate, so far as adult experience is concerned, largely abstractions. The concrete desire experienced at any moment will as a rule include both primary and secondary desires. And the concrete desire of the moment, in its turn, will really represent, and by the adult will as a rule be to some extent recognized as representing, only an element in a wider desire, the desire to satisfy one's self. Thus the object of the concrete desire of the moment, which embraces both primary and secondary desires, is itself really only a mode of realizing the one ultimate object of desire, namely, the satisfied self.

What we ultimately desire, then, is whatever contributes to the satisfaction of the self, to that mode of life in which, to borrow a phrase from Bosanquet, we feel ourselves affirmed and can rest. Now it is obvious that pleasure constitutes an element in that life; but it is no less obvious that it does not represent the whole of it.

Again, though in this ultimate desire, primary desires are subordinated and transformed, nevertheless they are not subordinated to secondary desires. Our previous account of the relation between primary and secondary desires remains true without any modification. The particular concrete objects, at which the primary desires aim, are desired only as contributing to the ultimate object of desire, to which the pleasure at which the secondary desires aim also contributes. But, on the other hand, the pleasure at which these latter aim would not occur if we did not already desire the particular concrete objects independently of this pleasure.

THE ETHICAL BASIS OF TRADE RELATIONS.

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THAT Ethics and Economics have points of contact, is no new thesis. The obvious theoretical affinity between the two has, in fact, often led to the error of interpreting Ethics from a preconceived economic angle, or of interpreting Economics in the light of *a priori* idealism of conduct. The impetus given to the latter position by Ruskin and Tolstoy has produced in the last century a host of idealist economists, with theories ranging up and down the entire scale of economic Utopias. From this welter of idealism, Economics has withdrawn itself with the status of an exact science, much in the manner and in the spirit of the withdrawal of the natural sciences from the obstructive influence of *a priori* theological ideas in the not-long-ago. In the case of Religion and Science, the breach became, to all intents and purposes, complete, and the *rapprochement* has only assumed worth-while proportions in the very recent years. In the case of Economics a similar breach is apparent. As an exact science it has assumed, in general, that ethical considerations are foreign to its genius. As a science, Economics must exclude all *a priori* ideas, but it may not, at its own peril, label as extraneous ethical principles which are innate in its very subject matter. It is wise to keep in mind the history of the natural sciences, which, divorced from the things of the Spirit, boldly denied their existence, sweeping away, for a generation of mankind, the noblest fruits of man's spiritual endeavour along with the witches and hobgoblins of his ignorance, but which, today, walk hand in hand with his highest idealism and are even his chief bulwark of faith in Life's purpose. In its last analysis, most wrong-thinking is due to the failure to recognize the essential unity of Truth. It is taking mankind a long time to learn the implications of the first law of Logic—the Excluded Middle—that a thing is either true or it is not true. What is true in Ethics cannot be false in Economics, and what is true in Economics cannot be false in Ethics ; and yet we are content to live in the confusion of the belief that Ethics and Business are each knowable in their own spheres, but that these spheres are the East and West of knowledge, and cannot meet. This dualism of the incompatibility of the Sunday pew with the Monday office chair underlies world Economics today, and, as a rational position, is both unscientific and philosophically untenable. At the beginning of all our thinking we must postulate that the Universe is of the nature of Reason, that its functions when discovered constitute a rational whole, that Truth is a unity, and cannot be self-conflicting. The piecing together of all human knowledge into one reasonable and complete whole is surely the sole aim of all our scientific and philosophic effort—in the faith that it *is* a whole. Any contradiction between the various branches of human knowledge is the sign manual of error in one or the other. If, therefore, there be any light of truth in ethical principles, they must at least be consistent with all other facets of truth. The purest of the sciences—Mathematics—has its ethical basis. It demonstrates to us that two and two make four, always have made four, and always will make four. This is no other than the principle of Good-Faith, the guarantee that the Father of the Universe is to be trusted to do always what is right and true. On this Rock of Assurance that there is no chicanery in the government of the Universe, Science and Religion have both planted their feet, and it is the fulcrum of all rational and spiritual endeavour. No science, then, can be unethical, and there is no right system of ethics which is not truly scientific. As to the science of Economics, which is a study of all human relations, it is shot through and through with ethical principles, even though these become, for the purposes of the science, economic principles. In fact, it may be asserted that economic and social relations have actually fathered our ethical standards for right conduct, which, though blazoned for us on Tables of Stone and spoken in the Sermon on the Mount, have mainly been forced upon us by the sheer necessity of bitter experience. Ethics have been described, with much truth, as being the distillate of the blood and tears of humanity's experience, and it is being impressed gradually upon mankind that the principles of good faith, of honour, and even of self-sacrifice, are no mere abstract ideals, but are the very categories of truth, the fundamental laws of all human relations as immutable as the laws of mathematical sequence. McDougall goes so far as to assert that ethical standards have their origin in man's biological history, and have come to us through the necessities of herd-life in our far-off primitive beginnings. To a degree we may accept this position, at least in the sense of the Universe having, as it must have, one ethical and rational foundation, which must be instinct in its every process in time and space. It is essential therefore for every branch of knowledge to recognize the ethical and rational basis common to all. Academic economics is shy of ethics as such, but as a science is bound to exclude no evidence, and baulk at no conclusion, be it demonstrable. Our thesis, then, is that no economic theory is, or can be, true, which is ethically unsound ; that ethical principles are the very categories of economic theory and as such insist on recognition—*not* because we should, but because we scientifically *must.* The old saw that " Honesty is the best policy " is most illuminating in this connexion. Honesty and Good-Faith are recognized to be not merely pious injunctions, but good business, and the dire effects of disregarding this ethical principle in any economic structure are too apparent to allow of dispute. The political storm which has raged in Australia in the last year centred around this very principle. We have decided that, as a nation we will be honest; not, let us admit it, for honesty's sake, but for the much more powerful motive of self-interest. This admission is all to the good. In one respect, at least, we have realized that good ethics is good business, that if we will not be moral because we should, a swift retribution will drive us to right conduct in sheer self-defence. The writing is plain for all to see. We must as surely build our economic house in line with right ethical standards as we must plumb our towering offices with the line of gravitational pull—for Gravity is no more sure and no more scientifically exact in its laws than the Moral law of the Universe.

We are not here concerned with Economics as an academic study, so much as with the prevailing world attitude to trade relations. With respect to these relations there has never been so entrancing and illuminating a position as exists today. The movement of cause and effect is exceptionally rapid, and economic principles are adumbrated into view with a clarity and on a scale never before witnessed. As to academic economics, its part in guiding affairs has been most disappointing. It is true, of course, that our democracy has not followed Plato's Republic and made cabinets of our Professors of Philosophy and Economics. On the contrary, every man today is his own economist; it is a case of " *quot homines, tot sententiae* ". But our government bodies are not being given any guidance even as to first principles, and our economic life, like Topsy, has no known genesis, as far as a scientific basis is concerned. The World is in economic travail, and there is no clear voice from the science of Economics. It is little wonder that the man in the street tacitly assumes that the science has nothing to give and even asserts that it is no science at all. To the world at large, things economic still appear to be nothing but matters of opinion—of trial and error. Is it too much to be hoped that an International Economic Congress may meet, to prescribe for our sick humanity, in much the same manner as medical assemblies consult and advise on current epidemics of disease?

Where academic economics however, is silent, the popular and government variety is noisily audible, and it is with this that we are concerned.

To begin at the beginning, let us assert that trade is a normal human function, necessary and natural. In its simplest form it is a matter of barter, straight-out exchange between one person or group and another person or group. The motive and basic idea was, and is, mutual betterment as between buyer and seller. The growth of trade through the increasing facilities for exchange and increasing specialization made possible our civilization. The extent to which the growth of trade was responsible for man's progress in physical comfort and intellectual betterment is too obvious to need stress. "Self-contained" nations (the ideal, by the way, of modern economic Nationalism), have remained in the backwaters of human progress, while the trading nations have inherited the earth and all the fullness thereof. Fiske points out, in "Old Virginia and her Neighbours", that the population of England at the time of her first ventures in Virginia by Raleigh and his company, was a bare five millions. The pouring out of her money in trade and of her sons as colonists in the next two centuries had the extraordinary effect of greatly increasing, not only her population overseas, but the numbers at home, to over six times their original census. Such a growth has no parallel in world history, and it is superfluous to allude to the part played by trade in this progress. Suffice it to say that, historically, the growth of trade has been all to the benefit of those engaged, making possible the civilization and the beginnings of international brotherhood which we have today. Trade, let us reiterate, is a beneficial human activity, natural and necessary, and as such has its rational and ethical basis, its immutable laws of operation, and its penalties for law-breaking.

Good-faith and honesty were early recognized as essential to a continuance of trade. The dishonest trader fell by the wayside in the early days of barter, just as surely as he falls today. The introduction of paper and metal currencies further emphasized the necessity of this ethical standard, and counterfeiting has been pronounced a cardinal sin in all countries. There is a further and still more important ethical basis of trade relations, however, which only of recent years is being forced upon our notice, and that is its "mutuality". Trade, to be sound, must be mutually beneficial. The seller of an article must, in the sale, not only enrich himself, but benefit his buyer: the enrichment must be mutual. This mutuality is natural to trade, implicit in its very nature. It cannot be too strongly emphasized that the necessity to reaffirm this principle has only arisen through man's efforts to eliminate it. The ground of "mutual" trade is actually an ethical principle of a very high order. It is the "Do unto others" of the Christian Ethic and the basis of all impetus to a social regeneration. Though native to trade in its very essence, this principle is widely challenged as being out of place in a business world. It is our task to show that it is no mere pious exhortation pushed *ab extra* into Economics, but is innate in Economics as such, and that no economic theory which conflicts with it can be scientifically exact. This "mutuality" arises from the fact that in our varied human needs the buyer today becomes the seller tomorrow, and any general lack of mutuality as between buyer and seller must of necessity injure all parties in the long run. Any attempt by either party of a trade transaction to enrich itself at the expense of the other is a breach of mutuality, it is bad Ethics and bad Economics, and appropriate retribution will inevitably fall.

During the last half-century the effort to avoid this "mutuality" has developed from very innocuous beginnings into an involved technique, until today trade has developed into a guerilla warfare as between nation and nation, between states within nations, and between sectional industries within the states. Mutuality being the natural and normal basis, the methods of this technique of evasion of the principle are necessarily unnatural, abnormal and arbitrary. Mutuality cannot be ignored in an atmosphere of freedom of action, and the entire technique of unethical economics is a welter of compulsion, arbitrary rewards, and chicanery. The "Iron" Law of Supply and Demand, so far from being recognized as every man's guarantee of fair play, has become the Aunt Sally of every street-corner economist, as he points with pride to the successful manipulation of Supply and the artificial stimulation of Demand. In precisely the same spirit, the embezzling of public funds to their own use by public men in our own day is regarded with pride and envy by a large mass of our people—provided always that the penalties of the law are avoided. Trade has come to be regarded not as a function of mutual benefit, but as a war to be fought with every weapon which ingenuity can produce. Productive and industrial interests today approach their customers not with a trade reference as to the quality of their commodity, but with a pistol loaded to the muzzle with privilege and force. One looks in vain for any general recognition of ethical standards in modern trade—other than the irreducible minimum of currency and contract fidelity. The backwash of every war, however, returns in a wave so high that it reaches even the high places of its cunningest profiteers; the world today, after its orgy of economic killing, has been forced to call a halt and take stock of its position. The damming of the channels of exchange for the gratification of sectional greed has dried up the waters of trade, which are also, as we have seen, the very Water of Life to Civilization. The net result is as though Morgan and Kidd were still buccaneering on the high seas, for our trade routes are terrorized in no less real a sense. Let it be said here, without any apology, that the ultra-" protective " policy of nations in the light of the essential mutuality of trade stands self-condemned. The " motive " of all " protection " is not, as the name unfortunately suggests, the highly ethical principle of sheltering inoffensive weaklings against some monster of oppression, although interested parties have marshalled all the powers of sophistry to show that it is so. It is essentially, in its origin, a principle of offensive war, to force an advantage from trade which normally would not accrue, to sell as largely as possible, to fill the nations' coffers, and to hamper in every way the efforts of the customer to do likewise. Obviously, a temporary advantage is gained, giving a superficial glamour to the affair, until retaliatory measures are adopted by the attacking nation's customers, when the battle becomes more even and general and victories are not so easy. If any one fact has arisen stark and clear from the international position today, it is surely the certainty that God has made no provision for a Monroe Doctrine among the nations of the earth. It is increasingly manifest that no nation " liveth (or dieth) unto itself ", that the measure of a nation's prosperity is in direct ratio to its customers' well-being. We are bound as individuals and as nations by a single rope in our ascent of the peaks of progress, and for one to fall is for all to fall. Either we all go up or none goes up. To even a myopic world it is evident that for any nation to maintain progress and prosperity she must, to a very great degree, take the world with her. Mutuality, in short, is the sole basis of human well-being.

One is aware that in referring to fiscal policy we are treading on a well-worn battleground knee-deep in the dust of conflict, and strewn thickly with the lances of many mighty men, and it is not our purpose to revive all the hoary points of dispute. Suffice it to our own purpose to uncover the feet of the god, and display the clay, already crumbling with the weight of the superstructure.

The increasing adoption by the nations of the non-mutual policy of " protection " has rendered it so universal that the principle of mutual trade has come to be regarded as an anachronism, as grotesque and defunct as the pterodactyl, a cock-shy for jesters to pelt at. It is wise to realize, however, that this triumphal progress has not been due, primarily, to the conviction of humanity that " mutual " trade is fallacious so much as to the intense procreative power of error. As one falsehood begets a myriad others to give it stability, so the first introduction of non-ethical trade relations on the part of one great nation has forced its neighbours, one by one, to retaliate with similar weapons ; the vast mass of special pleading of the apologists of trade-war being, mainly, a justification of a *fait accompli*.

The most conscientiously pacific of nations is compelled to take up the arms it abhors, in sheer self-defence, should a neighbour descend upon her *vi et armis* and the opening of economic war amongst the nations has, of necessity, forced all humanity into the fray. To her everlasting glory, Great Britain has held aloft the standard of ethical trade to the last, and only in the last few months has she drawn the sword against a belligerent world, with obvious reluctance and many misgivings. One realizes that Britain could do no other, that war must breed war, and force be met with force, but the instinctive dislike to the business which has been so apparent speaks volumes for the ethical sense of British commercial life. One is reminded of how many a choice spirit in the period of 1914-18, hating war, realizing its wrong and its futility, yet took arms in the ultimate conviction of necessity. To fight because of the menace of oppression is one thing, however, and to glory in slaughter a very different matter, and no apologist, surely, could be found to justify such war on the grounds of its universality.

As to the future, the end of this warfare has been brought appreciably nearer by Britain's entry, for non-mutuality can only prey on mutuality, dishonesty on honesty, selfishness on unselfishness, and brigandage on genuine trade. The earlier "protected" nations, glutted with their gains, have developed an economic dyspepsia, and we are finding that self-interest when met with self-interest cancels out to zero, the net result being nothing more valuable than a harvest of friction and suspicion. The existing international position is Gilbertian in its folly. What more ludicrous than to behold the mighty nations of the earth in this year of grace sitting cased within their respective tariff walls, their unsold and unsaleable goods piled high at their backs in a pathetic endeavour to sell everything and buy nothing! We have produced at last a logical impossibility—a world of sellers without buyers!

The end, however, is in sight, as it must always be when an error is pushed to its logical conclusion, for it is only too obvious that economic disarmament is the central world topic today. It may be that an armistice will be called through the agency of the League of Nations, for that body has realized that economic war is no less unethical in its essence and terrible in its havoc than the cannonading of armies. However that may be, the gigantic structure of non-mutual trade restrictions between the nations is toppling of its own weight, and through the dust of its destruction may be discerned a small figure energetically sweeping away the mess, whom those who have eyes to see will recognize as none other than our childhood's friend, "Mrs. Do-as-you-would-be-done-by".

We have remarked that humanity is forced back on to the basis of sound ethics, more by the unworkable nature of wrong standards than by the appeal of right conduct as such. Particularly is this the case in international affairs, for it is only too obvious that we have not yet arrived at a patriotism which embraces peoples of other tongues and of an alien colour. It may be even said that the measure of a man's cultural development is gauged by the width of his patriotism. It is still regarded as almost a virtue to enrich one's own country at the expense of a foreign one. At any rate, it may be asserted that in general one's altruism is supposed to end at the nation's frontiers. It is not surprising, therefore, that ethical considerations as such should receive scant mention in international commerce, but one looks, with more hope, for mutual reciprocity of a higher order within the bounds of one's own country, and between the people of one's own blood. It has to be admitted, however, that the technique of trade manipulation for the purpose of benefiting certain interests as sellers, and to that degree impoverishing other interests as buyers, has grown to a greater degree within the border of our own country than in our dealings with strangers. Civil war is always a greater tragedy than racial conflicts, and the battle of trade greed amongst ourselves is more deadly in its effect and more blighting in its immoral influence than any conflict we may wage with oversea interests. It is necessary here to refer again to first principles. In normal unhindered trade the seller of any article receives its value as determined by the demand. In other words, the price of an article is determined by the buyer, according to urgency or otherwise of his need for the article in question. If every buyer in the country has free and uninterrupted access to every seller of that article, the claims of mutuality are automatically met, in that the seller receives for his product the sum which is determined by the degree of service it rendered. That degree may vary, but the fact remains that in this transaction the seller is enriched by just the degree of enrichment of his buyer. The fluctuations, in fact, which occur through a shortening or lengthening of supply, and a weakening or strengthening of demand, so far from being a weakness of this "effete" law of Supply and Demand, are its very strength and justification, for both buyer and seller are assured that the exchange is made on the basis of service rendered by the one to the other. Both parties are protected from exploitation by the fact that trade activity always flows to where Supply is short and Demand is strong, and the deficiency is soon made good; and on the other hand over-supply is automatically corrected by a weakening demand. The obvious effect is that all human endeavour is directed to, and all human recompense is governed by, actual social service; the process is natural, scientific and ethical. From the point of view of "easy money", however, this system has its obvious drawbacks, for no sooner does a thing begin to sell well than an unseemly rush to produce that thing takes place, with the doleful result that the buyer ultimately is able to purchase that article at its actual service value. It appeared an obvious truism that could one but limit supply, and exclude further competition, the buyer would be forced to purchase at a constant high rate. In other words, it would thus be possible to increase the need by starvation, for anyone can see that a starving man will pay more for a loaf of bread than a well-fed and comfortable citizen. The obvious moral to non-ethical business is that the starvation of the one is necessary to the enrichment of the other. How much more attractive and fascinating is this economic gospel, than the drudgery of legitimate old-fashioned trade! What prospect has an ambitious man to amass a fortune when his only means of increasing the price of his saleable commodity is either to improve its quality and its intrinsic value to humanity, or to increase its quantity, and all in the face of unlimited competition? Preposterous idea! And as the "brotherhood of man" theory was exploded by science along with the "Fatherhood of God" fiction, let no twinges of compunction mar the efficient execution of the New Economics. So, on with the dance! Who will deny that this vignette is a true miniature of our Australian economic structure today? The first noteworthy exploit along these lines was probably the early operations of the great American Trusts, which tiring of the modest dividends of genuine trading, cornered one after another the various necessities of the national life, and held the people to ransom by the weapon of actual economic starvation. Most of us today remember the thunder of denunciation aroused by these transactions. Sermons were preached, anti-monopoly legislation was rushed through, and the dollar-hungry brigands were held up to scorn of all right-thinking people. But the damage was done, and the breach in the wall of mutuality remained. Fortunes amassed by the financiers of the trust were too dazzling to be ignored, and the identical principles have been adopted on an ever-growing scale into the economic life of many nations, but more particularly into that of our own democratic land. The aim of trade is not, under this New Dispensation, to *meet* human needs, but to *create* human needs. Similarly, the recompense which the captain of industry is to receive is gauged, not by the degree of service rendered to his customer, but by the degree of economic emaciation to which he can be reduced. The strange creed of this economic cult is that the enrichment of the seller is in direct ratio to the impoverishment of his buyer, and that so far from each party in a trade transaction rising mutually bettered, the ascent of one is attained by trampling underfoot the other. This is the creed of the modern "pool", a respectable sobriquet for a disreputable ethic. The history of the growth of "pools" in Australia is highly illuminating, both as to the development of the technique of avoiding " mutuality ", and as to the inevitable chain of retaliatory pools caused by the unchecked operation of the principle. The " pool " idea is too well known, in its general outline, to require exhaustive description. Like the earlier trusts it relies upon the principle of force as against the principle of service, and the measure of its rewards is the measure of its numerical, monetary and legislative might; it is the Prussianist theory of economic progress, and its challenge to civilization is no less real than that of the German Military Caste in the dark days. It is a reproach upon our loose thinking and our opportunist method of government that this anti-social and anti-democratic idea was allowed, at its first appearance, to take root in our economic system. The seriousness of the situation, however, must be realized when one thinks that so far from being declared illegal and undemocratic, these warring sectional monopolies have not only legislative sanction, but legislative assistance and encouragement! It is only too evident that as a people we have no time for ethical considerations, and believe that human relations may be safely built upon the sands of greed and force. But let history speak for itself. The first main repercussion of the " pooling " of money as exemplified in the earlier transactions of Trust Monopolies, manifested itself at the other end of the economic structure in the " pooling " of labour, upon which a vast technique of industrial monopoly has been built. If ever a " pool " were justified, if ever it could claim ethical and humanitarian sanction, it would surely be the " pool " of the under-dog, the hewers of wood and drawers of water, and it is little wonder that the apparent success of the idea has made of Unionism the religion that it has become today. Let us repeat our original thesis that the only true basis of trade is the principle of mutual benefit, of the recompense of the seller in the degree of his service. The labourer, in common with us all, has his product for sale—his labour—and has every justification for selling that produced, to the best advantage. In fact, the greater his prosperity the better it is for all. In common with every seller, however, he must observe the principle of " mutuality ", in that his recompense shall be in direct ratio to the value of his services rendered. Only thus can the buyer of his product continue the demand which is essential to the prosperity of the seller. (The inefficient and the incapable must ever be a charge on the civilized community, and their inclusion in the ranks of the workers as a lever to destroy the principle of mutuality has been mischievous to all parties.) The pool principle, however, offers the glittering bait of recompense in the ratio, not of service, but of the workers' powers of compulsion. Thus it was that the honourable and humanitarian trades unionism of other days has become an economic freebooter, ravaging industry by the might of its legislative and obstructive power. It is unnecessary to linger on this point. It is only too obvious that when one is allowed to fix one's own rate of remuneration without exact reference to service given in return, the temptation to extortion is too great for ordinary humanity. Industry after industry has been forced to its knees, many to utter extinction. An illuminating sidelight on this non-mutual unethical position is the creation of a high-wage caste on the one hand, and a host of unemployed with no wage at all on the other. Let it here be clearly stated that the manipulation of labour supply and the starvation and exploitation of the labour demand is no whit more reprehensible than the functioning of these immoral ideas by other forces of industry. National self-interest, Unionist greed, and the Pooling of primary products are all in a direct genealogical descent from the spurious economics which is based on an ethical wrong. Trade Unionism has its function, but that function must be ethically sound if it is to be beneficial, even to the workers themselves. It must learn that no man, be he worker, financier, or farmer, may demand more for his product than the sum determined, by natural demand, to be the measure of its service to his fellows. For a higher wage, better service must be exchanged, thus benefiting the worker directly through his wage, and indirectly through the increased purchasing power of that wage.

But it is necessary to survey the latest developments in our civil economic war, in the creation of Pools of various products, primary and secondary. Here again the rise and origin of these warlike developments can be directly traced to the effects of prior wrongs. As in international affairs, the declaration of non-mutual war by financial and industrial interest has goaded the very stronghold of freedom and independence, the agricultural and pastoral industry, into combining their forces for similar deeds of violence. If the buyer of an article is held up to ransom by the seller of that article, it cannot be wondered at, that in his capacity as seller of his own particular product he will retaliate by a raid on the pockets of his buyer. This, rather than a carefully deliberated and wilful theory, is the explanation, even if not the justification, of sectional pools. The farmer is a man who, from time immemorial, has wanted nothing better than to be left alone. He is shy even of co-operation, and the attempt to assist him by honest co-operative organization met nothing but disaster for many decades. The non-mutual warfare, however, has forced him into a corner. Labour and the manufactured article alike demanded payment on a scale determined artificially and forced by legislative sanction without any reference to the actual economic value rendered. The primary producer has retorted with sugar pools, wheat pools, butter pools, and now even these very products are doled out to hungry humanity at their real value, plus certain "backsheesh", the measure of which is the measure of the pool's numerical power and legislative protection. This result has not been achieved without difficulty. Many primary producers have objected to being dragooned into compulsory bodies for marauding purposes, and have claimed as their birthright the liberty to sell the fruit of their own toil, when, how, and where they will. No monopoly, however, can corner its customer, if he has other avenues of supply, and thus we have seen legislative action (save the mark !) forcing these recalcitrants into the ranks of the freebooters, and arming each successive monopoly with its full kit of marauding tools. The operations of these monopolies have had many apologists, even humanitarian and ethical sanctions being involved ; but one is seldom at a loss for reasons in justification of what one believes to pay. The recently issued manifesto of the sugar pool in justification of its operations would bring a lump into the throat of any but the most hardened, could one but forget it is in receipt of a recompense for its product of well over 200% of its value. The distinguishing common factor of all the above operations is the removal of the index of reward from the criterion of service, of mutual benefit as between parties, to an arbitrary criterion based on no stable scientific principle, but measured solely by the greed of segregated interests operating through the dark ways of political intrigue. Being arbitrary, the foundation of these transactions cannot be scientific, and as to the ethical principle of mutuality there can be little dispute. To attempt to justify these pools involves the assertion that the world is a make-shift affair, wherein the reward of industry has no scientific or moral criterion ; that God has forgotten to make a law on this question ; and that we are doomed to rely upon fallible and even corruptible officialdom to juggle the matter unto the end of time. The ethical and economic unsoundness of these dealings cannot be hidden by labelling them "Organizations of Industry", or "Stabilization of Prices". "Organization" like "that blessed word Mesopotamia", has come to be regarded as a good thing in itself, and is viewed by practically every branch of industry with a sort of awed worship. Organization, as such, is neither good nor bad : its motive and its methods, however, can make it divine or diabolical. It is time to examine this God of Organization and be sure that he is not a Moloch into whose fiery lap we are casting our liberty, our peace and our morality.

It is interesting to speculate on the road by which this civil economic war will travel to its end, as end it must if moral laws govern the universe. Two alternatives appear to present themselves. The first is that we shall continue this process of mutual economic extortion to its logical conclusion ; that is to say that we shall arrive at a stage wherein every economic activity is in arms against every other, when, as in the case of international freebooting, the net result is zero. Dog does not eat dog. A privilege granted to or extorted by any section of the body economic is only valuable to the degree in which the other sections of that body remain unprivileged. But goose and gander must, in the long run, be seasoned alike, and one can visualize our distressful country in future years wearily laying down its futile arms through sheer exhaustion, driven to build *de novo* out of the ruin of folly, bitterness and privation of war.

The second is that we shall disarm the combatants before the strife becomes general and so avoid the disaster that is otherwise inevitable. In this connexion it is obvious that disarmament must be mutual and contemporaneous. It is idle to disarm the farmer while the manufacturer and trades unions are entrenched against him. Each, today, is loudly demanding the overthrow of the armed forces of the other, while hugging its own weapons, but we have had our fill of sectionalism, and no odium can be attached to one which is not applicable to all—for " all have sinned ". The process will necessarily be unpleasant, for we shall be going backwards on our tracks, and retreats are neither spectacular nor popular. Entrenched officialdom will fight to the death, and the disciples of " easy money " will rally to their defence. The alternative, however, is immeasurably more disastrous.

Is it too much to hope that our intelligentsia in these days of popular bewilderment may, for a time, forsake the more " dilettante " branches of disputation, and at least give this subject the attention which public interest demands ? There appears to be an urgent need of an authoritative, elementary economic evangel, a touchstone of first principles, an insistence on the inevitability of eternal truths, and of the ethical nature of the truths. Can one not find unanimity in this thesis, at least, that material in common with spiritual well-being can find but one sure foundation, " to do justly " ?

EDUCATION.

By H. Gibson,
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The progress of society depends on the specialization of its constituent elements. Backward races are the least specialized. The most primitive savage tribes are composed solely, or almost solely, of one element — huntsmen. The most highly civilized societies are made up of innumerable elements. The fewer the elements of which a society consists, the less is its power over environment, and the more meagre its experience. Power over environment increases and social experience becomes richer and fuller as the number of social elements grows greater. The most backward societies are simplest in structure, poorest in experience, most restricted in power; as specialization is achieved and progress is made, the structure of society gains in complexity, experience becomes richer and fuller, and power increases.

Specialization arises as the result of the interaction between individual variations and variations in environment. Where an individual varies markedly and other circumstances favour the development of individuality, a new social activity may arise and the material of which society is composed undergo a measure of specialization. The specialization of society, and therefore its progress, has its genesis in the individual, and since it depends on individual activity, can only be achieved through individual freedom. The freedom of the individual is therefore an absolute prerequisite to the progress of society.

The progress of society depends upon the specialization of the human material of which it is composed. The aim of education is to fit the individual for his place in society. Specialization should obviously be the great objective of education and as obviously can only be achieved through the freedom of the child.

Suppose we take individual specialization as the great objective of education, and individual freedom as the indispensable prerequisite to such specialization, what would be the content, process and institutional organization of the educational system?

Specialization arises as a result of the reaction of individual variations to variations in environment. Environment includes not alone the material manifestations of the universe, but the forces that constitute the life of the universe and the laws by which those forces are controlled. The variations of the individual are all those multitudinous differences, mental, moral and physical, that distinguish the members of society, and variations in environment are variations not alone of the material universe, but also of its laws and forces. If, then, education is a progress in specialization, the process of education obviously consists in allowing to individual variations the fullest possible freedom of reaction to variations in the material manifestations and in the laws and forces of the universe.

The aim of education is to bring the individual into relation with his universal environment. The individual can only establish relationship with his environment through an understanding and application of the laws and forces of his universe. The more complete, therefore, such understanding and application, the more fully will the aim of education be achieved. Man has in the course of the ages accumulated certain knowledge and gained experience in the application of natural laws and forces. This knowledge and experience are the common heritage of the race, and will obviously form the content of education.

All life is an education in the widest sense of the word, but nevertheless it is universally recognized that the period from infancy to maturity is necessarily one of preparation, and the activities of this period are therefore more definitely educative in character. What, then, shall be the character of the educational institutions through whose instrumentality during this period the individual will be given that preparation that will enable him to make his maximum contribution to the activities of society?

It is necessary here to distinguish between two aspects of the development of the individual. One is bodily growth, that physical development that is common to all; the other is specialization, that development of function which is not common to all, but limited to the members of a given trade, profession, or calling.

In the existing institutional organization these two aspects of development are not clearly distinguished. We have evolved institutions based on age rather than on function. Thus, in the Infants' School we find all children between, say, five and eight; in the Primary School all between, say, eight and twelve; those who get past the Primary stage attend at the Secondary Schools until, perhaps, seventeen, and those over seventeen who wish to still continue their education go on to the University. Generally speaking, the pupil attends a school, not in order to develop a particular faculty, but because he happens to be of a certain age. It is true that the importance of function is beginning to receive some slight recognition. Thus secondary education is now catered for by High, Commercial, Junior Technical, and Domestic Science schools. But the inherent powers of the child are indisputably more significant than his age, and function should therefore be the chief factor in determining the purpose of a school. In the institutional organization outlined, the aim will therefore be to group pupils not according to their age, but according to individual interest and capacity. A detailed treatment will not be attempted. It will suffice to indicate broadly the practical application of the principles involved.

In the first place, the degree to which the specialization of the individual would be provided for would depend on the stage of development. Thus in the institution to which young children would first be sent, specialization would be least pronounced, but would become more and more accentuated as development proceeded, reaching its culmination in the last stage of the educative period.

In the second place, the whole procedure of education would be fundamentally different. There would not be class rooms in which all subjects were taught, nor teachers who taught all subjects, nor children to whom all subjects were taught. There would be subject rooms, each devoted to the pursuit of one or an allied group of subjects, supervisors each devoted to and specializing in the subject pursued, children devoted to and pursuing subjects according to individual ability and inclination. There would be perfect freedom to any child to pursue any subject at any time, in accordance with necessary regulations and under the guidance of the supervisor.

Since the freedom of the child is inviolable, his abilities and inclinations determine the nature of school activities. Play would therefore be very important. In the institution at which the child would first attend, the playground would be spacious enough to permit of freedom for the proper conduct of games, and beautified as far as possible with trees and flowers. It would be well equipped, and under the constant supervision of an adult specializing in children's games. Equipment would not be elaborate. Subject rooms would be comparatively few in number. One would be devoted to the study of letters, one to number, one to manual work occupations, and the fourth to play activities. In the first room would be found all the equipment, charts, primers, story books, *et cetera*, which experience has shown to be necessary or valuable aids in helping the child to learn to read; and in the second, the equipment necessary to enable the child to master the rudiments of number. The child would learn to write his letters in the first room and his figures in the second. In the third room would be found the equipment and material necessary for manual work occupations. The fourth room would contain, among other things, a piano, and would be given over to indoor play activities, especially dancing. There would not be any necessity to set apart separate rooms for the study of history and geography. Only the simplest notions can be imbibed at this age, and these can be adequately catered for in the Letters Room or Manual Work Room. Children sing and dramatize, not because they wish to become singers and actors, but for the sake of the pleasure they derive from singing and dramatization. No formal treatment of these subjects would therefore be attempted. They would both be Play Room activities. Community singing would be indulged in and simple dance songs would be sung. Dramatization would be of the kind in which children voluntarily indulge, and would therefore be of the simplest order. The same considerations apply to art. Pastel work, *et cetera*, would be an activity of the Manual Work Room. Hygiene would be acted, not studied. Work and study in each room would be under the supervision of an adult qualified solely for such supervisory work.

The practice of grouping children according to age has great value in early years, since development is not then pronounced, and specialization is accordingly as yet unimportant. Most children would probably remain at the first institution—corresponding to the Infants' School—until seven or eight, entering then upon a new stage in the educative process.

The institution at which the child would now attend would be designed to meet the needs of children ranging in age from about seven or eight to thirteen or fourteen, and would therefore exhibit a greater degree of specialization. Physical culture is the most basic element of education, and we may therefore begin with it.

It may be that at the present day physical culture is of all subjects the least understood. It receives but scant recognition in the curriculum, and the attitude of the average teacher is one of indifference. It is treated apathetically and perfunctorily, and its cultural value is very small. Neither the teachers nor those who frame curricula are to be blamed, since these things are inevitable under the existing organization of society. But by the ancient Greeks it was treated in a very different spirit. They understood it better than any nation before or since, and exploited its resources with unparalleled success. The curriculum for Athenian children up to seven years of age consisted solely of games. From seven to sixteen, half the time devoted to education was given over to physical culture, and from sixteen to twenty, education remained predominantly physical. Notwithstanding this, it is recognized that Athens possessed the most intelligent populace the world has ever seen, and produced the most remarkable galaxy of intellectual men of which history makes record. Physical culture continued to hold its important place in Greek education for many centuries, and its inclusion in the school curriculum was advocated by both Plato and Aristotle.

The above facts would seem to indicate that the training of the body is well worthy of close study by the modern educationist. With us, a game is to a great extent played for the sake of achieving victory or enjoying ourselves. But behind Greek games lay a much higher motive.

"And yet from all this (physical training) the Greeks got much more than mere physical development. Moral results were no less important. Whole-mindedness, or temperance—the control of the passions and the emotions by reason—was thus obtained. Above all, the co-ordination of thought and action, the fitting of conduct to precept, of word to action, was secured through this same training. There resulted that harmony between the inner thought life and the outer life of conduct which formed the ideal of the Greeks.

"Games and physical contests were not indulged in haphazard as with the modern youth, nor participated in by the few for the entertainment of the many. Nor were the standards of excellence the same as modern ones. Success consisted not so much in the winning of the contest, as in the evidence given of the proper form of the exercise, in graceful and dignified carriage, in control of temper, and of skill."[1]

Games, then, would cease to be haphazard and indulged in merely for enjoyment; they would be systematized and made to serve a distinctly educative purpose. And here there need be no sacrifice of freedom on the part of the child. A child may be given the opportunity to strive after a standard of excellence, or may be allowed to employ himself without aim or goal. His freedom may be as great in one case as in the other, but there will be a vast difference in the value of the activity. Moral and physical development, the training of hand and eye, the harmonious adjustment of physical powers and capacities to the material universe and the operation of natural forces, are some of the objectives to be obtained through true physical culture.

The playground and gymnasium, then, would be a very important part of the institution. It would be idle here to attempt to lay down a curriculum for physical education, as this would need to be determined by scientific research.

The school building designed to meet the needs of this stage of development would contain six subject rooms. The first would be devoted to the study of English and Literature, the second to Mathematics, the third to Manual Work, the fourth to Nature Study, the fifth to Music and Dramatization, and the sixth to Art. Each room would contain that material and equipment that experience would prove to be most suitable. Manual Work occupations would cover as wide a range as possible, consistent with the abilities and inclinations of the children. Household Management, Cookery, Sewing, *et cetera*, would be included in the curriculum for girls.

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[1] Monroe: "A Brief Course in the History of Education."

History and Geography would, as heretofore, be treated in the English Room. At this stage, the aim in regard to these subjects should be rather to excite interest than to attempt to encourage a formal and intensive study. History and Geography are sciences, and scientific study, if justice is to be done to it, requires maturer development than that usually found at this age. Hygiene would not be studied, but practised. Morality would not be taught, but its inculcation would be an integral part of every school activity.

Nature Study would not be formal and scientific. The aim would be rather to arouse interest in natural phenomena. The child would be encouraged to establish the relation between cause and effect in easily understood cases, and to apply simple generalizations. The continual attendance of a supervisor would be unnecessary. A travelling supervisor might attend to several schools, spending a morning or afternoon at each, explaining, indicating experiments, laying out programmes of work, criticizing work done, *et cetera*. Music, Dramatization and Art would be under one supervisor, whose attendance would be necessary oftener than in the case of Nature Study. Fewer schools, therefore, would be attended to by one adult. In the case of Art, the attendance of the supervisor once a week would probably suffice.

Gardening would be under the direction of a skilled gardener, who would have under his care the gardening operations of a group of schools.

Beyond this point two types of institution would be required, one providing for a general specialization adequate for the great mass of skilled farmers, artisans, clerks, *et cetera*, and the other providing the highest degree of specialization in certain social services.

The first type of institution would include General Culture, Agricultural, Commercial, Technical, Domestic Science, Art, and Science Schools. In the General Culture Schools, subjects would include Literature and Languages, Mathematics, History and Geography. The Agricultural School would give practical training in farm work. In the Commercial School such subjects as Bookkeeping and Business Principles, Shorthand and Typewriting would be studied. The Technical School would give practical experience in various branches of industrial work, and Domestic Science Schools in the theory and practice of home management, child rearing, *et cetera*. The Art School would furnish opportunity for the study of the various fine arts, and the Science School for the formal study of Chemistry and Physics, Botany and Zoology, Palæontology, *et cetera*.

The organization of such a system of educational institutions would be governed by various factors. In the first place, the extent to which division of function could be carried would depend on the density of population. In metropolitan areas, institutions could be given a degree of specialization impossible in rural districts. Then again, the type of school established would depend on the locality. Thus the most fitting place for an agricultural school is the country, and for a technical school, an industrial area. Not only that, but different types of technical schools would be established in different localities according to the industry engaged in. Thus a technical school in Glasgow should train for employment in shipbuilding and another in Edinburgh for the printing trade. Bradford would have technical schools training for service in the woollen industry and in Coventry the aim would be to turn out workers qualified for the manufacture of motor cars and cycles.

Beyond these schools providing for general specialization would be a final institution providing for the last phase of development. Thus the institution providing for the completion of the work undertaken in the General Culture School, would treat of the higher branches of Mathematics and provide for the intensive study of special branches of Literature and Languages, History and Geography. The last phase of agricultural training would deal with experimental and theoretical work, and would necessitate incursions into the fields of Chemistry and Biology. Commercial training would terminate in courses in Salesmanship, Accountancy, Business Management, *et cetera*, and the work of the Technical School would culminate in the assimilation and application of that physical and chemical knowledge necessary for the understanding and control of the processes of manufacture. The same refinement of training would be found in the institutions in which would be completed the study undertaken in the Domestic Science, Art, and Science Schools.

Such, then, is a brief summary of the institutional organization of an educational system designed to furnish to the individual the maximum opportunity for self-development. We may now contrast the proposed system of education with that existing, and in doing so take the opportunity of amplifying and explaining where difficulties may appear to exist.

Liberty, consistent with the general good, is the inalienable right of every man, woman, and child. At present the child has not that measure of liberty to which he is entitled. From the time that he enters the school precincts he suffers a loss of freedom. He may neither play nor study when and what he likes. He is cramped in his play, and in the school room he must study subjects which repel him, for which he possesses no natural aptitude and in which he can never hope to excel.

Corporal punishment must be used to exact an unnatural obedience and enforce an unnatural labour. In the most arbitrary way his occupation is changed continually without the slightest regard to his mood or inclination. In every activity he is circumscribed, hemmed in with endless restrictions and limitations.

Under the proposed system of education there would be no restriction of liberty except such as conduced to the welfare of the individual himself and of society. The child coming to school would be free to work or play when and as he liked, provided that in doing so, he did not interfere with the rights of others. The dreadful spectacle—for it is dreadful when its true significance is realized—of children being marched to the monotonous round of class room tasks like prisoners to the dreary round of the treadmill, would be unknown. Children would study only such subjects as attracted them, for which they possessed natural aptitude and in which they might hope to achieve their greatest measure of success. There would be no compulsion, no exaction of an unwilling obedience, no enforcement of a distasteful labour. The child's moods and inclinations would not—within reason—be violated, but would be largely the determining factors of his activities.

Upon the liberty of the child hangs the solution of every problem with which the educationist is confronted.

To begin with there is the question of attendance. Children have generally to be compelled to go to school. Why? Obviously, because the school does not cater for their needs, does not allow them the means of expression which their natures crave, or provide them with the mental and physical exercise that alone can promote healthy individual development. But the proposed system has as its most fundamental aim the development of individual potentialities, and this can only be secured by meeting individual needs and interests. Under the proposed system the child would at the school be able to occupy himself with the things he liked most, and do the things he could do best. In these circumstances, it does not seem likely that any normal child would wish to remain away.

The maintenance of discipline is another problem that has confronted the educationist in all ages. Endless devices are adopted and employed for maintaining order, yet the problem seems always to remain. Perhaps unruliness is merely the inevitable outcome of the existing class system. The aim of education at the present time is not to promote individual development by allowing the child to utilize that part of the experience of the race adapted to his needs, but to compel all individuals to undergo the same development by mastering the one content of knowledge. The class therefore consists, not of the same kind of individual pursuing one line of development, but of all kinds of individuals pursuing all lines of development. The class and curriculum at the present time constitute a heterogeneous jumble of conflicting and unrelated elements. Not only is there no relation between the children and the subjects, but there is to a great extent no relation between the individuals of the class or the subjects of the curriculum. In these circumstances conflict is inevitable, and it would appear, therefore, that as long as the present class system remains in vogue, discipline will continue to be a problem.

Under the proposed system, the most perfect harmony possible would exist among the different elements concerned in the educative process. There would be no conflict between the two most important elements, namely, the child and the subject. Conflict arises when aptitude, propensity, mood or mental development is at variance with the study to be undertaken. Under the present system, the teacher must ride roughshod over what are naturally the determining factors of the child's activities. Hence arises the need for discipline. But under the proposed system there would be no attempt to bring into subjection aptitude, propensity, mood, and development, and hence discipline would be unnecessary. The child's activities would be determined naturally and without compulsion. This, of course, does not cover the whole problem. Discipline is necessary at present, not merely to ensure that work shall be done, but that the child shall not, through ill behaviour, infringe on the rights of others. But here again a great advantage would be secured, since it is obvious that on the unruly child could be brought to bear the united disapproval of his fellows. The problem of discipline as it presents itself to the teacher at the present time, would be unknown to the supervisor.

There arises now the question of economy. The present system is wasteful in the extreme. The life of the teacher is mainly a life of misdirected effort. So wide is the curriculum to which he is required to devote himself, that after years of arduous study, he will generally fail to achieve a proper mastery of a single subject. His examinations over, he promptly forgets the greater part of the unmanageable mass of partially assimilated learning that is the result of his "cramming". Such is his preparation for his life's career. His life work itself is even more hopeless. The greater part of his labour is inevitably doomed to come to nought. He must try to teach to children subjects which they do not want to learn, and are unfitted to learn. When a child is compelled to learn against his will, the little that is absorbed is forgotten as soon as school days are over. What is true of the work of the master applies with equal force to the work of the children; both, in general, fail to achieve true mastery over any element of the curriculum.

The proposed system would evidently be the most economical which it would be possible to devise. There would be the most perfect adaptation of means to end which it would be possible to secure. Neither teacher nor pupil would labour at all subjects, securing real mastery over none, but would concentrate on that subject or group of subjects for which they possessed the greatest aptitude, and achieve thereby the greatest mastery possible to them. The elements concerned in the educative process would be a child desiring to specialize in a given subject, a supervisor who understood that subject more thoroughly than he understood anything else, and the subject would constitute that element on which the energies of both master and pupil would work with the maximum effect. There would be no dissipation of energy here ; on the contrary, it would be impossible to expend energy to greater advantage.

It might be contended that the number of supervisors required would be in excess of the present number of teachers. Even if this were so, the proposed system would still remain more economical, since the work of such supervisors would produce the maximum effect possible. But perhaps a larger staff would not be necessary. Every teacher knows that where a child possesses aptitude for a subject, scarce any effort is required to teach him, and that where no aptitude exists, no amount of effort will produce any result of value. The number of children possessing aptitude that can be supervized by one adult who has trained himself expressly for such supervision, should be much greater than the number possessing no aptitude that can be taught by one adult possessing no special qualification in relation to the subject taught. It might further be contended that some classes would necessarily be very small. Not many children are destined to be artists, singers, and so forth. But with the ever increasing facilities in travel, this difficulty would tend to become less and less. The possibilities of the future in regard to wireless and television must also be borne in mind. It will probably be possible, through this medium, to obtain in the future the absolute maximum effect possible, by bringing into relation the true elements concerned in the educative process, namely, the supervisor possessed of special knowledge, the child desirous of acquiring that knowledge, and the subject that constitutes for both of them the natural field of action.

Another great problem confronting the educationist is the rigidity of the present system. It is realized that where a child is advanced in one subject and retarded in another, he should be able to attend different classes in order to receive the necessary instruction. This, however, appears to be practically an impossibility, owing to the difficulty of arranging a time-table that will give anything like free play to individual development. But the proposed system would be the most elastic which it would be possible to devise. There would be absolutely no reason why the prodigy of tender years should not attend classes along with children and youths twice or three times his own age. The rigid time-table so necessary under the present system would be unknown.

It might be contended that under the proposed system many children would never trouble themselves about reading, writing, and arithmetic. This matter needs some consideration.

The value of giving to the individual a mastery over letters and number can easily be overrated. A boy may learn to read, and make no further use of the gift than to consume "penny dreadfuls" or try to pick the winner of a horse race. He may be given a mastery over number, and use his knowledge only to defraud and rob, bringing misery to millions of his fellows. On the other hand, some of the happiest people living do not know one letter from another and cannot count beyond five. Charlemagne, one of the greatest rulers of the ages, never got beyond signing his own name. Letters and number are, as a matter of fact, not essential to material success, reasonable happiness, or true morality.

The value of letters and number depends, as does the value of every other invention devised by man, on the character of the user. There is no device that cannot be misused when the will to do so exists.

A mastery over letters and number is not absolutely necessary to success, happiness or morality, yet it cannot be doubted that in a modern society, he who can read, write, and manipulate number may be more successful, experience greater happiness and attain to a higher morality than if he lacks these arts. Opportunity should therefore be furnished to every individual to learn to read, write, and cipher. It is obvious that the opportunity would be furnished, but would it be taken advantage of by all or nearly all?

Application to learning depends on mood, and success in learning on mental development. Perhaps the fact that we are in the mood to attempt a subject is an indication that mental development is proceeding. We are all, especially in younger years, subject to "fits and starts". For weeks, perhaps months, the child might limit itself to one or an allied group of activities. For years it might altogether eschew a given subject. But there seems no reason to suppose that the average child would neglect to acquire the rudiments of letters and number. These subjects are not repellent in themselves; it is when their study is enforced that they become distasteful. It is a matter of adjusting the activity to aptitude, propensity, mood, and development. The child is constantly manifesting new propensities and developing new powers. The subject that attracts today has lost its fascination next week, next month, or next year. Some other takes its place. It must be remembered also that play activities would not be merely a matter of idle amusement. Every school activity would be educative in character. It is probable that the child in following his natural propensities and giving exercise to his natural powers, would absorb as much of the elements of the curriculum as was necessary to his development. It is to be remembered, also, that in allowing the child to take his own time and work according to his own inclination, there are certain positive advantages. He will not come to the new work jaded and bored by a constant repetition of an enforced labour, but with the zest that belongs to a new experience. He will be the readier to apply himself to the new work, because his interest in the old will have temporarily languished. He will, furthermore, have the advantage of a greater maturity. A boy who did not apply himself to reading until he was, say, eleven years of age, would then, perhaps, make as much progress in twelve months as he would have made in two or three years had he started at six. There seems some reason to suppose that, alike for the "bright" and the "backward" child, general progress, as well as progress in the particular study for which the child was suited, would be greater under the proposed system than under that existing.

One of the great educational problems of the day is concerned with the question of intelligence. Various tests have been devised with the object of ascertaining the "general intelligence" of the child. But if the proposed system is based on the right principles, intelligence need present no problem at all. It is not a question of attempting to compute an intelligence that may apply itself with equal facility and success to all the subjects of the curriculum, but of allowing the potentialities of each child fit opportunity for development. Intelligence is not of one kind any more than are individuals. The intelligence of an artisan is distinct from that of an artist, of a farmer from that of a clerk, or of a wharf labourer from that of a clergyman. Perhaps the distinctions and gradations of intelligence are as infinite as are the variations in the physical characteristics of individuals. Instead of attempting to ascertain whether an individual has high or low intelligence, we have to furnish to each kind of intelligence the material it needs for exercise and development.

Another outstanding problem is concerned with the choice of a vocation. This is very important, since on the right choice of a vocation depend the happiness of the individual and the welfare and progress of society. Why is the choice of a vocation so difficult at present? Perhaps it is because the present educational system does not give the individual the requisite opportunity of expressing himself. The present system is not concerned with ascertaining individual potentialities, but with developing the same potentialities in all. It may be that much, or at least some of the hesitancy and uncertainty with which the average youth chooses an occupation, is attributable to the fact that he has never been given the opportunity of finding out what he is suited for. Natural propensities are blunted, natural powers remain undeveloped. But if the individual were given absolute freedom of development, it should be possible for him to decide this important question with a much greater degree of certainty. As a matter of fact, the inevitable result of the educative process would be to train the individual for his life's occupation. The problem of choosing a vocation should be much less acute than at present.

Another great problem confronting the educationist at the present time is that of classification. Under the present system, the aim is not to get a class of like individuals specializing in one subject, but to get a class of all kinds of individuals and attempt to make them specialize in all subjects. No matter how uniform, in relation to the curriculum, the class may be when it is first made up, the "bright" children soon outstrip the "dull" ones, and the class ceases to be homogeneous. From this result the following evils: (*a*) The child with aptitude suffers a grave injustice; he is retarded because his progress must be that of the slower members of the class. (*b*) The child who understands easily, becomes bored with the constant repetition necessary for those whose powers of apprehension are weak, and gets into mischief. This greatly accentuates the problem of discipline. (*c*) The "dull" child suffers an incalculable loss in the lowering of his self-respect. (*d*) The "dull" child, who is perhaps not really dull, but merely out of his element, is also retarded, because he cannot work or study at that occupation or subject wherein his talents would find natural exercise. It is evident that under the proposed system none of these evils would be present. No matter what the nature of the aptitude, progress would depend on the child himself. There would never be any need to get into mischief for lack of work. Children would not, as at present, be led to think either too much or too little of their abilities. There would be a far juster appreciation of individual worth.

We come now to the question of health. There can be no doubt that the present system must act deleteriously on the physical well-being of the child. To begin with, real physical culture, certainly as practised with such success by the Greeks, is non-existent. The harmonious development and physical health of the child are not promoted as they should be through the appropriate activities. Not only is real physical culture neglected, but the child has usually not even full freedom to indulge in spontaneous play. His playground is too cramped. But this is only the negative aspect of the matter. He is not merely denied the right to strive after health, but is actually driven towards ill-health. He is compelled to spend about five hours each day for five days in the week in the school room. Here he is doomed to remain seated in one spot for an hour and a half or two hours at a stretch. The effect of this enforced inaction on the constitution of a normally healthy boy or girl must be bad. It is no doubt a good thing that the absolute decorum that is the ideal of the school room is usually impossible of attainment. Not alone must the child attempt an unnatural and harmful stillness, but must breathe the more or less unwholesome air that is inevitable in a class room occupied to anything approaching its full capacity. When to all this is added the bad effect of corporal punishment and detentions, to say nothing of the possible harmful effects arising from the retarded development of natural faculties, it cannot be doubted that the present system leaves much to be desired when considered in its effect on the health of the child.

Under the proposed system these evils would either have no existence or would be greatly mitigated in their action. Physical culture would form a most important part of the curriculum, and the promotion of physical health and harmony of development would be a direct aim of education. No evil effects need result from prolonged physical inaction, since the child would have reasonable freedom of movement. Corporal punishment, detentions and impositions would be unknown; there would be no repression of natural powers. Even the evil effects of breathing a vitiated atmosphere would not be so great, since more time would be devoted to physical education and such subjects as literature and mathematics could to a great extent be pursued in the open air. The child is a free agent and is not compelled to sit in a class, but may pursue his study under a tree or in any convenient spot that suits his fancy.

There remains still the question of the moral development of the child. The lies told and the deceptions practised under the present system are positively appalling. Nor is the child to be blamed. The laws of his nature are violated at every step in the educative process, his propensities are thwarted, his powers denied exercise. He is forced to try and do things which he dislikes doing, and which very often he cannot do. He becomes bored with the unending succession of unpalatable and often impossible tasks and "gets into mischief". Threatened with an unmerited corporal punishment, who can blame him when he takes refuge in lying, or seeks relief from a wearisome daily round in the diversions of truancy. Nor is moral degradation confined to the child. The teacher is also set an impossible task, and if he or she descends to lying or trickery, no accusing finger need be pointed. But under the proposed system the utmost candour would prevail between supervisor and pupil. There would be no need whatever for the practice of the daily deception that constitutes so great a blemish on the present system. If a child got into mischief or played truant, it would certainly not be because the system necessarily drove him to it.

We come now to examinations, which, under the present system, merely furnish further instances of misdirected energy. As the aim of education is to induce or compel the child to absorb as much as possible of the curriculum, the purpose of the examination is to ascertain the extent of his knowledge. The test is to a great extent worthless, because it does not estimate his true worth to society. His value to society depends on the development of his potentialities, and with such development neither the curriculum nor the examination is concerned. But under the proposed system the aim of education would be the development of individual potentialities, and the purpose of the examination would be to test that development. The examination would be economical in the highest degree, since not alone would the result be one of real value, but it is obvious that in obtaining it far less energy would be expended.

What applies to examinations applies also to inspections. The work which the inspector must examine is itself misdirected effort; he must attempt to place a valuation on that which is intrinsically valueless. But if education were a progress in specialization, the energy expended in inspection would be less, and the result of real value, since it would be an inspection of work tending to promote the welfare and progress of society.

At the present time the average school garden is calculated to excite the pity rather than the admiration of the beholder. This cannot be wondered at. Usually the teacher knows little about the subject, and with an overcrowded curriculum, it is not to be wondered at, if, in his heart, he cares less. Perhaps a bare hour or half-an-hour is all that can be allotted to it in the week. A further difficulty is experienced in directing the efforts of a whole class. There is not usually sufficient ground available to admit of allotting plots to small groups of children. But if the gardening operations of a group of schools were under the supervision of a skilled gardener, so that he would have available the help of children and youths really interested in the subject, it is evident that a tremendous improvement could be effected, really valuable knowledge imparted and training given that would later bear fruit in the form of efficient social service. Operations could be conducted on a much larger scale and the grounds of educational institutions beautified to a degree at present unknown and impossible.

Under the present system it is impossible to organize material and utilize time to the best advantage. In the one room must be kept all, or almost all the apparatus necessary for the treatment of every subject in the curriculum. If the teacher has become bored and indifferent with the drudgery of a seemingly hopeless task, bare, drab walls, unrelieved by map or picture, will meet the gaze. If, on the other hand, the teacher is young and ardent, there will be a plethora of material of all kinds. There will be pictures and charts, aids and specimens relating to every subject in the curriculum. The walls will be crowded, the presses and drawers filled. The mere handling of all this material is a serious handicap. Again, the attempt to cater for a whole curriculum, merely confuses and dazes the mind of the child. There are pictures historical and geographical, pictures dealing with literature and pictures dealing with nature study; there are time charts and weather charts, number aids and spelling aids. There are specimens of plant life and specimens of animal life; health maxims on this wall and moral maxims on that. Here is a museum and there an aquarium. The child cannot take it all in. Too much is attempted, with the result that too little is achieved. But what a difference there would be under the proposed system. Here each subject would be treated by a specialist and he would have a whole room to specialize in. Imagine the treatment that could be given to, say, history. There would be maps illustrating the rise and fall of nations, and the influence of climate and topography on human character and activities; time charts of great men and great events, friezes illustrating the evolution of land, sea, and air transport, of armour and weapons, of castles and cathedrals, of skyscrapers and steel bridges. The evolution of agriculture, of commerce and industry, the rise of the arts and sciences, religions and philosophies would all be presented in the clearest and most striking manner possible. On the shelves would be found histories and biographies, and round the walls reproductions of such articles of historical interest as lent themselves to decorative purposes. The class spirit would be such as is impossible of attainment under present conditions. There would be a harmony of interest and spirit of co-operation between supervisor and pupils at present unknown. All would be working towards one end. Because material would have a value in the eyes of all, it would not be wasted, but conserved. And it is evident that what applies to history applies also to every other subject in the curriculum.

Through the educative freedom of the child it appears possible to solve every educational problem with which the present age is confronted. Discipline becomes unnecessary, the vexed question of intelligence appears to be a false issue, classification is placed on its natural basis, the choice of a vocation might almost be said to be part of the process of education. Attendance would be spontaneous, and health and morality promoted—not impaired, as at present. The system would be economical in every true sense of the word; from the true adaptation of means to end would result the maximum of efficiency with the minimum of waste. School room and school grounds might combine beauty and utility to a degree as yet undreamed of. The school would be the centre of the social life of the children, healthier, better and happier children than any past ages ever saw or the present age ever dreamed of.

SCIENCE AND RELIGION.

By John Donald MacLean,
Eskdale, Victoria.

There is probably no controversy so interesting and at the same time so unprofitable as this age old controversy between science and religion. It is interesting because it involves some of our dearest traditions and beliefs and it is unprofitable because there has hitherto been so little basis for agreement. The introversion of the usual statement of this problem indicates the possible basis for understanding. It implies that religion itself has become a subject for scientific investigation. The results of this investigation are astonishing and conclusive and, as will be shown, give a satisfactory basis for understanding.

Analysed into its elements the problem becomes one of fixity *versus* development. Religion is committed to certain fundamental truths, the validity of which is found in the statement that an omniscient and omnipotent being revealed certain truths to His chosen prophets. Beyond the statements of His prophets, therefore, we cannot go. While this attitude is no longer generally credited so far as all His prophets are concerned, it is definitely claimed for Christ. Beyond the statements of Christ, religion is not prepared to go. If His statement is in conflict with definite, demonstrable, scientific truth, then it is rationalized and explained in order to reconcile it. To Prof. Julian Huxley, " God had to be thought of as one removed farther away, as the designer and creator of machine ", and antecedent, " Of God as continually controlling the details of the working of the heavenly bodies ". When science discredited this, the Church found its authority violated. The tendency of the Protestant branches of the Church is to reject any claim to revealed knowledge other than that of Christ, and in doing so makes a precedent of development as opposed to fixity which is worthy of following to its logical conclusion.

Science, on the other hand, has found the sanctions of the Church inimical to the discovery of new knowledge. The true scientist has a definitely religious feeling about truth. He regards dogma as anathema and feels that his right to investigate new aspects of truth without prejudice is sacred. Socrates drank a death potion rather than deny his inspiration. There are many cases within the Christian church of much the same thing. Newton, Darwin, and Lister were violently opposed by the Church of the day. Today the Church has absorbed much of what they taught, but although this is the case, the Church has not abandoned her policy of fixity. The absorption of new knowledge has come through the individual members of the Church rather than through the Church's leadership. Since the Church has, in the past, denied the validity of the scientist's claim to investigate truth, and has refused to sanction new truth, it is hardly remarkable that such a chasm has opened between them. We ask ourselves the question, "Can science and religion ever meet and go hand in hand seeking the ultimate reality?"

In the January "Hibbert Journal", Sir Oliver Lodge makes an interesting contribution to this question. He pictures the universe as running down by the rapid loss of matter by radiation. He says that, this being a recent discovery, "Why should we not, in the course of years, discover that energy can turn into matter?" He points out that the idea of a universe running down needs the idea of a beginning. We cannot imagine a beginning, and therefore we are justified in supposing the second law of thermo-dynamics as incomplete. We are, as a matter of fact, debarred from gaining a complete view of the universe by the limitations of our senses. A description of matter leaves out Life, which animates matter under exceptionally favourable conditions. On the analogy of an otherwise unknowable electric current heating a filament to white heat, and thus betraying its presence, he claims that the function of matter is merely demonstrative of Life. Life, he claims, exists independently of matter. Taking this idea still further, he points out that Art, Music and Literature have an unseen reality, that is, they are mental interpretations. "If then, we find in ourselves or have reason to infer in the universe, things which are only partly displayed in matter and still largely concealed, we need not deny their existence, because they are outside our reasonable ken. We may feel assured they are realities." This we may take as an argument for the existence of a Power which we may call God. He adduces further evidence from the beauty of natural objects such as a bird's feather. A heap of stones is not beautiful, but it becomes beautiful under the influence of design in a building. So he argues a Designer for the universe. With this he is satisfied, and he goes on to point out the function of religion. If we can hardly understand the technique of Homer, how can we hope to understand the marvellous technique of God, save in a spirit of awe and reverence? This is the function of religion. "Science probes and investigates, religion accepts and worships. There is room for both in different moods." However, they must be kept separate, although co-existent. The observer should contemplate both, "in a spirit of unification".

We may reasonably object that all this is too inferential. Even if we admit the existence of unknown forces we have still far to go before we can infer a deity. When Sir Oliver marvels on the beauty of a bird's feather he is forgetting that beauty is a subjective experience which is relative to the observer. Beauty has no rigid determining laws and no observable and measurable phenomena. We have no reason to suppose that beauty exists apart from our perception of it. What is beauty to Sir Oliver is not necessarily beauty to me. This destroys the value of his argument for design. Unless we can admit his views on scientific conclusions we cannot accept his solution to this controversy. Modern religion demands the concept of God, and will not accept a basis which excludes God.

Ernst Johnson presents a more logical argument for vitalism in the same journal. (Are We Alive? Ernst Johnson.) " In every mechanistic conception of the universe ", he says, " there will be two major gaps, and it is these gaps which justify vitalism. The second law of thermo-dynamics reveals a world proceeding to a state of equilibrium. A restoration of potential is observable, *i.e.*, the forming of clouds from water vapour, but there is a cumulative margin of loss which must eventually bring a state of equilibrium, when no further movement is possible. On the mechanistic hypothesis in the unfoldment of the female cell there must be two parts. One part expends its potential in producing a new cell and the other spends its potential in restoring the mother cell. Therefore, the potential for mankind must have existed in the original mother cell. If we calculate the number of duplicate formative cells presupposed in this theory, we reach the amazing number of five hundred raised to the fifty millionth power, a number which would fill a book of five thousand pages. That is, the theory of reproduction on the mechanistic hypothesis is absurd. This leads to the obvious conclusion that " there is manifested in organic beings a non-physical force which produces physical results which are different from the physical results produced by physical forces alone ". Mechanism is unable to account also for the persistence of consciousness. The idea of consciousness originating through mechanical causation is ridiculous, and even unimaginable. Consciousness could not have possessed any survival value for mechanical natural selection, and since consciousness undoubtedly does persist, mechanism is once more discredited as a complete interpretation of Life. The direction of the flow of mechanical energy can only be changed by adding energy to it. The only energy that can be added is freshly created energy. " Mechanics makes it clear that matter can be moulded only by adding energy to it. The vital element in an animal or plant is not immediately visible. It is perceived only indirectly by the peculiar turn it gives to the mechanical processes which it appropriates out of its environment." The sum total of this clever article is to point out that the lessons of physics have been learnt very incompletely. In this idea of creative force a way to agreement with religion seems to open. Religion cannot tolerate absolute denial of creation or creative force, but it has modified and will modify its view of the identity of this force. When we add to it a contribution from Professor Huxley later, it will be seen to offer a reasonable basis for agreement.

In reviewing the whole question Charles Singer sees two ways out of the difficulty. Religious and scientific experience may be sharply segregated, and then no clash of opinion is possible. "Separate internal experience from external experience. The man who does that is safe; he has fled, as have many before him, to a haven of peace down the mystic way." The other way out is to regard existence as part of a whole greater than the individual, which is working its destiny out in all things. The first solution is unlikely to appeal to a scientist, while the second is a less exact expression of Johnson's view. We would not turn to it, however, for Singer's reason, desperation, but because of its sanity and reasonableness. Moreover, it is not sufficiently specific to satisfy religion. It is an individual rather than an institutional solution.

Professor Huxley opens a profitable line of inquiry in a broadcast address in November, 1930. He points out that Comparative Theology has taught us that the common element in religion is not deity, but sacredness. The inference is that religion should not be pledged to any definite concepts of God. Religions, although committed to a policy of fixity, have always developed. "The practical task of science is to provide man with new knowledge and increased powers of control, the practical task of religion is to help man to decide how he shall use that knowledge and those powers." There is little criticism of such a statement in modern churches; it is in abandoning old theologies that conflict is likely to come. "If religion will but abandon its claim to fixity and certitude (as many liberal churchmen are doing today), then it can see in the pursuit of truth something essentially sacred, and science itself will come to have its religious aspect."

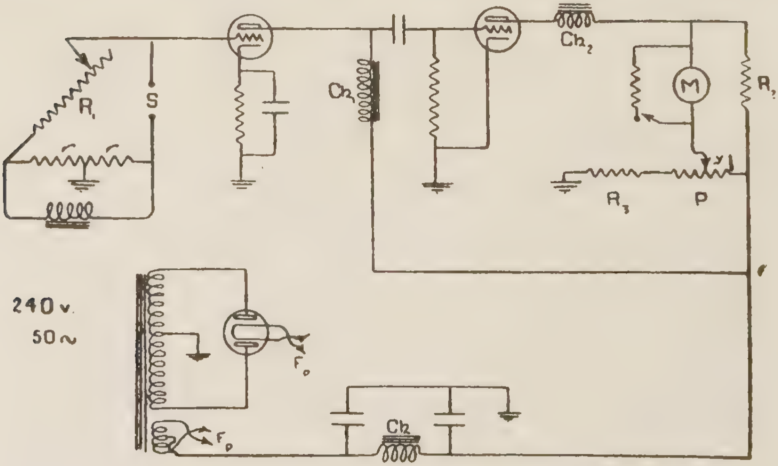
Professor Huxley shows us the way to harmony and to a splendid co-operation which cannot fail to have a wonderful spiritual effect on the world. Can Religion make the necessary sacrifice of theology to achieve this eminently worthy practical result? It is no less Christian in its result or its practice, is it less Christian in its ideals and principles? The question is an attractive one which is rather beyond the scope of this article. Few would say it is less Christian in its ideals, but there are many who would not care to face the implications of denying the fatherhood of God. The development of modern theology is away from an anthropomorphic deity, and it is possible that as religious ideas become more refined and concise regarding a creator or creative force, such a theory as that of Ernst Johnson will become acceptable. When such a time comes we may say that the reconciliation, for such it really is, will be complete. ". . . both can join hands in advancing the great experiment of man—of ensuring that he shall have life, and have it more abundantly."

A NEW NON-POLARISING A.C. PSYCHO-GALVANOMETER.

By Frank Colyer,
Engineering IV, University of Sydney.

The psycho-galvanometer as such needs no introduction, but one applying alternating current (A.C.) to the subject, and not employing batteries, is something new.

This apparatus, in common with the more recent direct-current types, employs wireless valves to amplify the small variations, and comes under the same classification as the cardiometer, now an acknowledged and valuable instrument in the medical world. In the latter, the primary power service is the variation of potential produced by the heart during its cycle of operation. With the psycho-galvanometer, however, there is no source of energy for input to the instrument, as the variation to be recorded in this case is that of electrical resistance. This is due to the rate of change of excretion from the sweat glands. To utilize this change a current has to be passed



A.C
Psychogalvanometer

through the subject which will vary inversely with the change in resistance.

The simplest method of making this apparent would be by means of circuit shown in Fig. I, where the subject is shown as a variable resistance S in series with a sensitive milliammeter

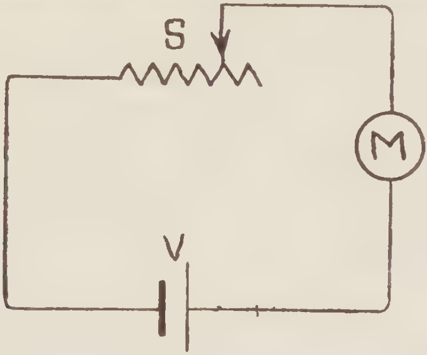


Fig. 1

M supplied with current from a source of potential V. When the stimulus is given the drop in the subject's resistance would cause a rise in current through the meter; however, the rise would be negligible compared with the constant normal current; thus we find that some amplifying apparatus is essential.

In the design of this amplifier other requirements were also satisfied. With direct current applied to the subject a definite polarising effect hinders constant results owing to a steady rise in resistance being involved. This could obviously be eliminated by the use of alternating current. The trouble with dead or flat batteries also emphasizes the desirability of using a machine operating directly from the mains. With these conditions in mind the machine in question was designed.

The voltage to be applied to the subject was, after some "try outs", fixed at 13 volts. This voltage, low as it may seem, can yet be felt by a few individuals. The next point to be considered was that of obtaining a potential change, proportional to the resistance. This could have been done as shown in Fig. II, in which R is approximately equal to S, thus when S decreased causing a current rise, by Ohm's Law the voltage drop across R would rise by some small amount dV proportional to the resistance drop, making voltage across R equal to $\frac{V}{2} \times dV$, and across S equal to $\frac{V}{2} - dV$. As $\frac{V}{2}$ is constant, it is unnecessary to apply it to the amplifier. To obtain dV only, it is suitable to arrange a bridge, of which the subject is one arm, the adjacent resistance in series being variable, it can thus be made equal to S's resistance, the opposite two being equal and fixed.

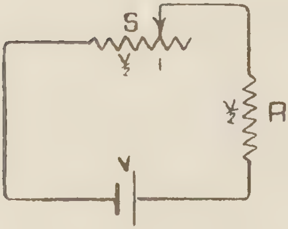


Fig 2

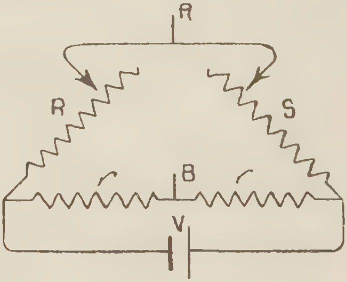


Fig 2a

Thus with S=R (Fig. IIA) there will be no potential difference between the points A and B until the change takes place in S, and then the voltage developed will be proportional to dS. This can then be applied to the grid cathode circuit of the amplifying valve. As this is the only resistance to be considered in this arrangement, it can be taken that the same relations hold for the alternating current as with the direct current supplied from the battery V.

THE CIRCUIT.

The first valve of our circuit is a normal audio frequency amplifying stage, and the amplified alternating voltage is obtained across the choke Ch. This valve may be an ordinary battery valve, as the use of alternating current upon the filament in no way affects the results, since it is constant; however, the advantage is with the indirectly heated cathode on account of its stability and amplification factor. A choke capacity coupling is employed to the output valve, or, if more gain is required, a good audio frequency transformer may be substituted. Owing to cost, the use of an alternating current recording meter was to be avoided, hence the next valve is designed to produce pulsating unidirectional current, which is smoother, so that a direct current meter is used. As no grid bias is applied to the last tube, with choke capacity coupling, the usual grid leak must be shunted from grid to earth to prevent any space change effect in the valve. The valve used is any triode having a slope of at least three milliamps. per volt. Only about 70% of its normal plate voltage is applied to prevent the current rising to saturation value, and this also exceeds maximum wattage dissipation.

The smoothing of the pulsating current is done by means of choke Ch_2 having a value of about 60 henries, and is sufficient to prevent the needle from vibrating. The heavy output current from the last valve is modulated only to the extent of about 5%, thus another bridge system is employed to remove the excess current, and can be brought into balance by means of the potentiometer P causing meter in plate circuit to read zero current when no potential is applied to the grid cathode circuit of the first valve. The value of R_2 must be sufficiently high to enable the meter to obtain nearly full sensitivity. Again R_3 must be as low as possible so that portion " y " of P may be low when meter reads zero ; this prevents further loss of sensitivity. The actual values of these resistances depend upon type of meter and valves used. The plate supply current from the power pack does not need to be as well filtered as in radio work, so resistance of choke Ch_3 can be kept low to aid the regulation of the system.

The problem involved is that of external line voltage variation and its effect on the instrument. The slow changes throughout the day in no way affect its operation, sudden changes above 5% are noticeable, but such variations should seldom occur. They would be sudden and then remain constant. This, however, would only alter the lengths of the ordinates on the record by a constant amount which can be afterwards corrected for the error. In general, line variations may be neglected.

In operation it is difficult to obtain a perfect balance upon the input bridge. Thus, care must be taken that the subject's resistance does not bring the bridge into perfect balance, and then to overstep this point. This would cause the output current to rise, then fall, while the subject's resistance would be still decreasing. To prevent this the bridge may be worked far enough away from point of balance, so that for the subject's maximum variation S will still be slightly greater than R, or one may otherwise begin by making S slightly smaller than R, but with bridge as near to balance as possible, thus making changes to further unbalance the bridge. In the first case the voltage applied to the first valve will be decreasing, hence current through the last valve will be on the increase. In the latter case the current would fall. Whichever system is employed, the meter can be made to read positively by reversing the leads and adjusting the potentiometer P. To prevent the change in either case, passing the point of balance, the meter may be adjusted so that balance is off the scale.

The recording meter should be provided with a shunt. Adjustments made with the subject and the resistances will not then injure the meter ; this shunt should reduce the sensitivity to one-tenth of its normal value, and be kept in operation until readings are to be taken. This also allows the point of balance of the input bridge to be located when the needle is off the scale at full sensitivity.

A feature of this instrument is that the first bridge may be almost definitely balanced for each subject, whatever his resistance may be, by observing this maximum current reading while slowly increasing R_1. Also by calibrating dial of R_1 we could read subject's approximate resistance when normal by reading this maximum point.

Calibration could be effected by substituting standard resistances in place of the subject.

The individual resistance of subjects naturally varies considerably, generally increasing with age and the size of electrodes used. With direct contact for hand electrodes used dry, the resistance varies from 2,500 to 11,000 ohms per square inch of contact area. A stable point is not reached, however, until the dry electrodes have been in contact with the skin for two or three minutes when a stable amount of moisture has accumulated. With cup electrodes containing a damp sponge, the contact not being so positive gives much higher results in the order of 100,000 ohms per unit area, unless very wet. The average subject with the dry electrodes first mentioned has a resistance, not the mean of two figures, but about 4,000 ohms per square inch. Assuming that the maximum variation of any subject to be 10% of his normal resistance, the maximum change at the first valve would be 0·6 volt. Knowing the meter we are to use, the amplification required can easily be evaluated. For example, take a 0 to 5 milliamp. meter. As rectification is only a half cycle, this R.M.S. value must be increased 1·4 times, *i.e.*, to 7 milliamps. Also assuming 20% loss in the coupling device we have

$$\mu_1 = \frac{1{\cdot}4 \times 5}{S_2 \times 0{\cdot}8 \times 0{\cdot}6} \text{ or } \frac{14{\cdot}6}{S_2}.$$

Where μ_1 = amplification factor of first valve
S_2 = slope in milliamps. per volt of second valve.
When $S_2 = 3$ milliamps. per volt

$$\mu_1 = 4{\cdot}87, \text{ say } 5.$$

A valve with this amplification factor or higher is easily obtained. To allow for other losses, and a very unresponsive subject, the common indirectly heated valve with an effective amplification factor of 7·5 would be most suitable in this case.

[The instrument here described by Mr. Colyer has been in use in the laboratory with perfectly satisfactory results.—A. H. MARTIN, Department of Psychology.]

REVIEWS.

THE MIND IN ACTION. By A. Campbell Garnett, M.A., Litt.D., Professor of Philosophy in Butler University. Contemporary Library of Psychology. London: Nisbet & Co.; 1931. Price: 5s. net.

In 1928, when he was Lecturer to Tutorial Classes in the University of Adelaide, Professor Garnett published, with Messrs. Allen & Unwin, a book entitled "Instinct and Personality", in which similar problems were treated as in the present book. There instinctive behaviour was defined as "the response of the physical organism to expectations of activity aroused within the mind". This doctrine of a "real causal connection between expectation and activity" was carefully worked out and interested the present reviewer a good deal. As its title implies, that earlier book covered much ground. So also does the present one. In it the study of human motives moves from the lowliest impulses to the very highest. It shows a transition, in fact, from the animal behaviour in man up to the religious interest itself. The book is a worthy attempt to give a comprehensive and well-analysed account of the mind of man in action.

Dr. Garnett is not altogether satisfied with the account of the mental life of man which is given by much of our current psychology, and one cannot help feeling in strong sympathy with his view. Psychology must be the study of the Psyche or become something else than psychology. Biology, Psycho-biology, Behaviourism loom too large and crowd out the essentially psychical, especially the cognitive, aspect of instinct. Not only are all conscious organisms active, but that activity indicates, as the publisher's announcement has it, "a continuous striving, not only to maintain themselves in satisfactory relations with their environment both physical and social, but also to develop their penetration of, and adaptation to, that environment by an increasing cognitive grasp of the several 'worlds' with which they find themselves in contact. All striving is thus regarded as directed by knowledge at lower and higher stages of evolution; and upon this basis the author develops an exposition of instinct and appetite, of sentiment and habit, as well as of the æsthetic, intellectual, moral and religious values, which is in many respects new to psychological thought." Obviously cognition is to be the main determinant of activity.

The reviewer agrees that needs or wants are more fundamental to motivation than are pleasure and pain. Pleasures and pains result from already organized needs. Even sensory pain, which the author is prepared to exempt, seems to be correlated as a danger signal with the need to go on living.

In discussing native needs a careful distinction is drawn between appetites as being determined by a stimulus that is periodic and internal and instincts as being determined by a stimulus which is occasional and external.

In his treatment of instinct, as one would expect from what has gone before, the author lays less stress on the emotional element than does McDougall, and more emphasis upon the cognitive element. There is always in instinctive behaviour, even of lower organisms, a significant situation recognized, though not always overtly, critically, self-consciously. Here we see the author's emphasis on cognition and the effort to lift psychology into a realm of its own by making even the earliest sources of behaviour dependent upon cognition. But it must be said, and in spite of one's sympathy with his aim, that he comes very near to underrating the part played by structure—a structure which is basic to any explanation of behaviour, and which is, in the last resort, neurological. We cannot do without the neurogram, the neurone pattern. For example, we shall never be able to explain the fact that man, universally, finds it difficult to lead the higher life of the mind, unless we are allowed to say that existing structure hinders his advance. But that existing structure is entrenched in his nervous system. Body and mind are given together: while we cannot have a true psychology in terms of neurology, or physiology, or biology, neither can we have a true psychology unless we take account of what these sciences tell of the conditions under which mind has to work. It does seem necessary, for example, when explaining behaviour, and when dealing with motivation, to consider Professor Child's account of neurone pattern and the axial gradient, with its differential susceptibility. If we do, we can question whether the tendency to change in activity is purely a psychological one. One may grant that activity is a function of life itself, and not primarily dependent upon stimulation. But is it not true that activity in a certain direction, if repeated, tends to be transferred to lower centres, so that it becomes more and more unconscious, less and less a matter of the cerebral cortex, with energy flowing easily through lower synapses? If this be so, action would tend to go on unchanged rather than tend to change. What is it which, in the face of this tendency to rigidity, yet maintains change? The obvious answer is to be found in the difference of susceptibility in the different levels of the axial gradient of the nervous system. Just as in the shoot of a plant, so metabolism is greatest in the most recently developed part of the nervous system, the cerebral cortex. The cortex is the growing point, the most active part which has first call upon the vital energy available. Now, the conservative, unchanging factor of habit would drain the cortex of stimulation and induce "inhibition of the cortex", unless the cortex had first call on available energy. In short the cortex will not be inhibited for any length of time under normal conditions. Consequently, when deprived of its stimulation by use and wont, its activity simply goes on, but in a new direction usually determined by the environment. This it is which will explain change of direction in activity; but would this change be merely psychological? Change is guaranteed by the natural liveliness of the cerebral cortex which passes on at once to a new direction, producing in consciousness a new interest. It seems necessary to take into account these neurological conditions of activity if we are to understand why habit does not from the outset inhibit change, as it finally tends to do with the onset of age. While Professor Garnett is right in emphasizing the importance of the meaning of the situation, yet he should, I think, give more place to the structural background as a condition for and determinant of our psychology. The intolerable narrowness of Behaviourism cannot be overcome by denying the "conditioned response", but only by accepting it as true, and going on to establish a science of mind with such truths as a background.

In dealing with significant situations and adaptation to them, Dr. Garnett appeals to the *Gestalt* conception of "configuration". Each situation is a totality. This totality is a complex system of relations which acts as the stimulus for active readjustment. The relations are cognized according to the Spearman principles, and other relations may be educed from them so that another and more satisfying situation may be cognized as possible and pursued accordingly. The object of the adjustment is therefore to alter one unsatisfactory situation until another and satisfactory one results, whereupon the conation set up by the unsatisfactory situation as stimulus, ceases. The fundamental criterion of instinct is "the end aimed at", or "expected", that is, the final satisfying experience. Moreover, the end is "a goal consciously sought". I cannot help reiterating here the importance of structure. It seems to me that sometimes structure, the despised *vis a tergo*, may be the real and only determinant, with the meaning of the situation quite insignificant. For example, I hold the definite opinion that movement acting as stimulus will sometimes cause a reaction in animals without their being at all conscious of what it is that is moving or what the reaction is about. I have, in this regard, carefully observed a dog chasing a motor car. I found that the dog races alongside the front wheel, looking in at the wheel, which is the most actively moving part of the car. Does this situation mean to the dog "something to be hunted, caught and eaten"? Is the dog not rather the victim of his innate structure? From the point of view of the meaning of the situation, is the dog's action really intelligent? After all, instinct is a biological provision, in the first instance, whatever may be superimposed upon it by our psychological development afterwards. The psychological element increases with the higher animals and with the cultural development of man until it so submerges or eradicates the structural foundation that some writers have denied instinct to man at all. Instinct should, in my opinion, and in the first instance, be defined as McDougall defines it, as psycho-physical disposition in which structure is at first predominant, though it gradually gives way to the psychical element as we pass to the higher animals, and especially with the increasing culture of man. The author admits (pp. 21-22) that some responses of the whole organism to a specific stimulus "may be completely unintelligent", but limits instinct to those responses of the whole organism which are intelligent. Thus by a kind of *petitio principii* he is enabled to define instinct mainly from the point of view of cognition or intelligence, as "the pursuit, with more or less foresight, of an innately determined end in response to the cognition of a meaningful situation".

I have dwelt upon this point because it is so fundamental to the whole argument, and because I am otherwise in agreement with the author. Indeed, I feel a good deal of admiration at the way he has pursued his one informing principle of a deeper and deeper penetration of reality right up among the highest interests of man.

H. T. LOVELL.

THOUGHTS THAT BREATHE. By M. P. Hansen, M.A., LL.B., Director of Education, Victoria. Melbourne: Robertson and Mullens, Ltd., pp. 198. Price: 6s.

Under his intriguing title, Mr. Hansen, the genial Director of Education in Victoria, has grouped some twelve interesting papers and addresses, each of which has a definite educational configuration which is none the less effective for being wrapped in a garment of culture. Apart from a few familiar stories which have crept into the earlier part of the book, the addresses are a faithful reflex of the thoughtfulness and talent of the author. Mr. Hansen groups under the head of Education and Leisure some wide and deep reflections on such subjects as a bewildered world, literature and art, school clubs and hobbies, mechanical aids in education such as moving and sound pictures, and broadcasting. The difficulties and the ideals of Australian education are revealed with skill and sympathy.

The modern tendency to shorten the hours of labour, together with the fact that it seems to be possible for all necessary production to be accomplished by only a part of the people, bids fair to reverse the time-relation which we have been accustomed to establish between work and leisure. If the hours of work are to be progressively shortened, it may soon happen that two-thirds of the life of an average man will consist of leisure, one-third of work. The implication is that education must be such as to enable the masses to use their leisure well. Great reliance is to be placed on the literary classics, not as a beginning but as an end. Surely, however, different levels of satisfaction must be provided for different minds. In this connexion Mr. Hansen's careful discussion of school clubs, and of mechanical aids to education, is fraught with interesting suggestions.

Several chapters glow with enthusiasm and inspiration. The following may be quoted as an example of Mr. Hansen's breadth of outlook, a quality in which he excels:

"Last century saw throughout the civilised world the successful issue of the long struggle to provide free elementary education for all. The fight in this century is to provide for the further stages. Beyond the elementary stage it was formerly regarded as sufficient if the way was open to a few brilliant and talented children to receive higher education. The aims of education beyond that of the elementary school were then mainly to provide a modicum of culture for the children of the well-to-do, and to train only the talented ones for positions of leadership in the community. Training for leadership must always be one of the leading aims of education, and this is of special importance under modern democratic conditions, in spite of widely-held opinion to the contrary in the United States, where too often the pace of a class is determined by that of the most backward member. It is not regarded as democratic to leave poor little Moron behind."

P. R. COLE.

THE UNKNOWN SELF, A NEW PSYCHOLOGICAL APPROACH TO THE PROBLEMS OF LIFE, WITH SPECIAL REFERENCE TO DISEASE. By Georg Groddeck, M.D. London: The C. W. Daniel Company; 1929. 207 pages. Price: 7s. 6d.

In the introduction to this book it is claimed that the author resembles the artist rather than the scientist in that he sees and knows without having to go the long way round of study. But the scientist, no less than the artist, must be able to make observations of new facts, and these observations may be none the less true because they have not been subjected to rigorous test. Thus we need not be surprised to find that Freud is able to acknowledge a debt to Groddeck for the idea which he embodies in "The Ego and the Id" of an "Id" (English "It"), or unknown and uncontrollable set of forces placed over against the Ego whereby the latter is "lived" or directed. But Groddeck is hardly able to prove, as he attempts in the present book, the existence of the "Id" by the argument from ignorance that because we do not know the limits of the Ego in time or space, do not, *e.g.*, know when the food we eat becomes part of it, there must be some force in us, the "Id", which deludes us into thinking we have an Ego. Nor does it follow from the statement that the Ego (even though it does not exist!) is "lived" by the "Id" that we may recognize that if a man is tall he is so because he desires to dominate over others, or that persons of either sex are corpulent only because they are expecting to bear a child; which, Groddeck considers, proves that cynical women are wrong in thinking that few children would be born if men had the bearing of them. Nor because sickness can be a flight from responsibility does it follow that "Whenever we see a blind man we know that it has been some advantage to him to become blind." Nor yet because it is possible for the "Id" to delude us, need the truly scientific thinker be he who recognizes he is just as likely to be right as wrong and consequently instead of operating for a serious internal complaint, puts off action as long as he can, diagnoses it as simply as possible as bellyache, and watches for the signs of the patient's "Id" to tell him what to do and say. Truly, after this, it would seem that the long way round of science is not without its advantages. What is required is that we should have a method of testing hypotheses once they have been reached.

GAIUS F. MCINTOSH.

SPINOZA, THE MAKER OF LENSES. A Play in Three Acts. By Professor J. Alexander Gunn, M.A., B.Sc., Ph.D. London: George Allen and Unwin. Price: 5s.

This play has been written and published in celebration of the tercentenary of the birth of Spinoza, which took place at Amsterdam on the 24th of November, 1632. Its aim is to present the philosopher in the environment of time and place in which he lived, and to convey in some small measure the charm of the personality of one of the world's greatest thinkers.

Other books by Professor Gunn, who has occupied a chair at the University of Melbourne since 1923, are: *Bergson and His Philosophy*; *Modern French Philosophy* (with a Foreword by Henri Bergson); *The Problem of Time*, *Benedict Spinoza*.

CO-OPERATION VERSUS COMMUNISM. By L. Messey, M.I. Struct. E., and A. H. Martin, M.A., Ph.D., Industrial Engineering Corporation Ltd., Sydney. Price: 2s.

The task of reviewing a work in economics written by those who are not economists is by no means an easy one, for the economist has a language, or, as some prefer it, a jargon of his own and is likely to read into the text a meaning which would greatly surprise the authors. Lest the writers of the work under review should accuse me of lack of understanding I make my apologies at the beginning.

It is inevitable that there should be disagreement regarding the causes of our present discontents and the plan that Australia must follow to regain prosperity. Thus we read on page 7 that " The real and root cause of most of our industrial trouble arises from industrial strife and the consequent high cost of production ". The authors wisely give to industrial strife a very wide meaning, but one might be permitted to wonder whether, after all, the various monetary factors making towards boom and depression can, without an unusual and unwarranted broadening of the term, be included under industrial strife. Moreover, industrial strife is a vague term and its consequences are hard to measure. If we can take industrial disputes as an outward and visible sign of an inward and spiritual discontent, then the Australian people are relatively contented, compared, for example, with U.S.A. or Great Britain, since both these countries lose far more workers' time per head or per worker from industrial disputes than does Australia. Nevertheless, there is no doubt that a serious lack of harmony does prevail in industry here as in other countries.

The main body of the introduction to the work is taken up with a discussion of industrial councils for the government of industry. The authors' plan combines points from many schemes that have been tried in different parts of the world. It owes something, for instance, to the Whitley Councils and to the German Works Councils and Federal Economic Council.

But the plan is none the worse for this, and the authors point out that the ideas they embody in their plan are by no means new.

The scheme is elaborated in Section II. One may criticize the somewhat narrow meaning given to co-operation ; question the truth of the statement that Sir Thomas Whitley originally suggested the idea of Whitley Councils ; and point out that it was Robert Owen, not Thomas Owen who carried out early schemes of co-operation. Considered as a whole the plan is a sound one. "There is no part of the plan that has been untried and that is without precedent ", but the authors have borrowed intelligently and have evolved a scheme which would undoubtedly improve industrial relations and possibly reduce costs of production. The only question to be considered is whether, in fact, it would work, and the history of various plans that have been tried in other countries does not make one very optimistic. This, however, was not the fault of the plans but of the people who endeavoured to administer them and who, one fears, were not always content to do as the authors of the plans would have them do—" exert (their) best efforts for the common good or end ".

Again in Section III the meaning given to co-operation is rather narrow, and the authors on page 15 are guilty, to the economist, of essential contradiction. Thus they inform us that " in the economic sphere alone there is no peace because the principle has been selfishly rejected " and yet point out that in the building of a house, in the production of marketable articles, various tradesmen, clerks and executives co-operate to secure the desired end. Surely the central feature of capitalism is co-operation even though, as Professor Connan has pointed out, such co-operation is " undesigned and unorganized ". The authors would have been well advised to have used co-partnership and profit sharing instead of co-operation. This would have fitted in very well with their history of co-operation in this section of the work. Co-operation and co-operative methods are as old as man himself for the division of labour is essentially a process whereby men divide a task into simple processes, so that, by co-operation, the work may be completed quickly and more easily.

The section on Industrial Relations is very well done and considers some of the schemes that have been put forward in Great Britain, Germany, U.S.A. and Australia with the aim of securing greater co-operation between employers and employees. One may perhaps be permitted to question whether Section 165 referred to on page 23 was not a section of the *Works Councils Act* of 1920. All but the most narrow-minded and reactionary critic must agree that some plan for securing greater understanding and closer relationship between employer and employee is essential and the authors stress the importance of consultation as a means of securing such relationships.

It is not possible in the short review to consider every section of the plan in detail. Sections V and VI are relatively straightforward and provide the reader with much useful material. The section on finance and credit generally puts forward schemes which should cause much earnest thought even though possibly few readers will be prepared to agree with the suggestions as a whole.

The five months' plan for a Co-operation Commonwealth is intriguing. The plan itself is obviously the result of careful thought and painstaking effort on the part of the authors, and the number of problems they have considered give the plan an appearance of completeness which is refreshing after the numerous unworkable schemes that have been put forward during the last couple of years by industrial quacks of all descriptions. Whatever one's reactions may be to the plan embodied in the work under review, one must admit that its authors are not quacks. They have been at pains to study carefully what has been done before, and they demonstrate an intimate knowledge of industry and of business methods. It is questionable whether such a plan could possibly be introduced in five months as the authors suggest ; and it is certainly very doubtful whether the funds would be forthcoming to carry out their Practical Industrial Programme ; but one cannot but acclaim the suggestion that a survey be made of Australia's resources, with the object of carrying out some scheme of rationalization, or reorganization when the time is ripe for it.

One has no hesitation in recommending this work to the earnest student of economics. Much of it will give rise to controversy ; some of it in the opinion of the reviewer, is impracticable ; and the whole scheme would depend entirely for its success on the unselfish co-operation of all parties in industry ; but the plan is an honest, reasoned attempt to point out the causes of our present difficulties and to suggest remedies for them. As such it is worthy of careful consideration and should not heedlessly be relegated to the scrap heap of Utopian policies because of the political views or narrow self interest of industrialists, business men and politicians.

R. B. MADGWICK.

THE SIMPLEX JUNIOR INTELLIGENCE TEST. C. A. Richardson. Harrap & Co., London.

This is a " self administered " group test consisting of a series of scales each of increasing difficulty but progressively overlapping one another. Thus Section I consists of simple problems in addition and subtraction, Section III vocabulary, Section VI classification, and Section XI ideal spatial relations, these last problems being based on a series of sixty-four cubes which make up a composite cube of 4 in. × 4 in. × 4 in. Obviously, in the tests it is the general factor which the author seeks to measure, for the scale is neither a pure point scale, an omnibus scale or a set of heterogeneous tasks of progressive difficulty, but a composite of all. In the opinion of the reviewer many advantages have thus been sacrificed without securing any compensating advantages owing to the progressive overlapping of sections. Some difficulty would arise with Australian applications in regard to the word " scullery " and a single coin worth two shillings and sixpence, the word in the former case being unfamiliar and half-a-crown as a coin not being in use. The scale is usable with children of from seven to fourteen years of age, though in the latter case the capacities of many individuals would not be fully measured by it. Its reliability as shown by self consistency is very high, as also its validity. Average age scores are given in the table, but not any measure of their variability.

A. H. MARTIN.

JOURNALS RECEIVED.

THE JOURNAL OF PHILOSOPHY. Published fortnightly. Columbia University, New York. Subscription: 4 dollars a year.

Vol. XXVIII, No. 24, November 19, 1931. The Latent Idealism of a Materialist—A Review of Santayana's *Realm of Matter*: J. H. Randall, Jr. Vol. XXIX, No. 2, January 21, 1932. A Study of a Philosophy of the Determinate (I): Abraham Edel. Animism and Materialism in Whitehead's Organic Philosophy: Albert M. Dunham. No. 3, February 4. A Study of a Philosophy of the Determinate (II): Abraham Edel. Taking the Causal Theory of Perception Seriously: Virgil C. Aldrich. No. 4, February 18. A Study of a Philosophy of the Determinate (III): Abraham Edel. Report of the Thirty-first Annual Meeting of the Eastern Division of the American Philosophical Association: Rudolph Kagey. No. 5, March 3. Report of the Eighth Annual Meeting of the Pacific Division of the American Philosophical Association: Donal Carey Williams. On the Logical Positivism of the Viennese Circle: Edward B. Ginsburg. No. 6, March 17. Uniformity and Induction: D. W. Gotshalk. Fichte's Conception of a League of Nations: A. C. Armstrong. No. 7, March 31. Mr. Lewis and the *A Priori*: Arthur E. Murphy. The Metaphysics of Space and Time: V. F. Lenzen. No. 8, April 14. Some Metaphysical Implications of the Pragmatic Theory of Knowledge: T. T. Lafferty. Some Early Holistic Psychologists: W. D. Commins.

MIND. A Quarterly Review of Psychology and Philosophy. Edited by Professor G. E. Moore. Macmillan and Co. Yearly subscription: 16s.

Vol. XLI, No. 162, April, 1932. Two Problems about Duty (II): W. A. Pickard-Cambridge. Mathematics and Dialectic in *The Republic*, VI-VII. (II): F. M. Cornford. Descartes' Proof of the Existence of Matter: A. K. Stout. Discussion—Formalism: C. A. Mace.

PHILOSOPHY. Journal of the British Institute of Philosophy. Published Quarterly. Macmillan and Co. Annual subscription: 14s.

Vol. VII, No. 26. The New Götterdämmerung: W. R. Inge, D.D. The Physical Aspect of the Universe: Sir Oliver Lodge. Poetry and Prose in the Arts (II): Professor S. Alexander. Man the Measure of All Things (II): P. S. Burrell. Renouvier—The Man and His Work (II): Professor J. A. Gunn. The Obsequies of Realism: Professor John Laird.

PSYCHE. Published Quarterly. Kegan Paul, Trench, Trubner and Co. Price: 5s.

No. 47, January, 1932. The Bentham Centenary: Editorial. Bentham's Theory of Language: C. K. Ogden. The Analysis of Fictions: S. Buchanan. Human Nature—An Early Chinese Argument: I. A. Richards. The Linguistic Structure of Mathematical Consistency: Arthur F. Bentley.

L'ANNÉE PSYCHOLOGIQUE. Edited by Henri Piéron. Paris, Félix Alcan. Price: 2 vols., 120 francs.

Vol. XXXI, 1930. Les aveugles possèdent-ils le sens des obstacles: W. Dolanski. Le seuil de perception de durée dans l'excitation visuelle: G. Durup and A. Fessard. Sur la Théorie de l'audition:

G. v. Békèsy. Contribution à l'étude des enfants biens doués: O. Decroly and M. L. Wauthier. L'évolution de la représentation visuelle à partir de l'impression initiale: M. Rostohar. Quelques chapitres de la Technopsychologie du travail industriel: L. Walther. Contributions à l'Etude de l'apprentissage: D. Heller-Kowarski, L. Kowarski and M. François. La Notion de validité: A. Fessard and H. Piéron. Le facteur subjectif dans les notes d'examen: A Laugier and D. Weinberg. Mesure de la suggestibilite motrice: J. M. Lahy. Du minimum de mesures nécessaires pour l'étalonnage d'un test: A. Fessard and H. Piéron. There are included the usual invaluable and comprehensive bibliographical analyses.

ARCHIVES DE PSYCHOLOGIE. Edited by Ed. Claparède. Geneva, Kundig. Price: 4 fr. 50.

Vol. XXIII, No. 91, January, 1932. Rapidité et Qualité: A. Courthial, I. Van de Stadt and Ed. Claparède. Profil psychologique des redresseurs de barres: William Dériaz. Enquête sur l'initiation sexuelle: Nella Canivet. Le flagellantisme à travers les siècles: Pierre Schnyder.

REVUE DE L'INSTITUT DE SOCIOLOGIE. Parc Léopold, Brussels.

Vol. XI, No. 3, 1931. Théorie de la consolidation: E. Dupréel. L'Aspect social des libertés constitutionnelles de nos jours: Marcel Vauthier. No. 4. L'Entranger dans l'Histoire économique de la Belgique: B. S. Chlepner. Les Universitaires et la Presse en Allemagne: Victor Leemans. Budgets ouvriers en 1891 et en 1929: Max Gottschalk. Vol. XII, No. 1, 1932. La XIIIe. Semaine Sociale Universitaire de l'Institut de Sociologie Solvay: R. Abrahams et Mlle. E. Hucklenbroich. Les savants étrangers en Belgique: Fd. Kraentzel. Le canoë: Raymond Lenoir.

RIVISTA DI NEO-SCOLASTICA. Published by the Faculty of Philosophy of the University of the Sacred Heart, Milan. Annual subscription: L. 50.30.

Vol. XXIV, No. 1, 1932. Notes sur la connaissance: J. Maritain. Problemi giuridici e problemi filosofici: Fr. Olgiati. La soluzione rosminiana del problema degli universali: A. Bestetti.

ARCHIVIO GENERALE DI NEUROLOGIA, PSICHIATRIA E PSICOANALISI. Official Organ of the Italian Psychoanalytic Society. Naples, Francesco Giannini and Figli.

Vol. XII, No. 3, 1931. Forme parassitarie intracellulari nella sclerosi in piastre: P. Guiraud. Emorragia capsulare arteriosclerotica simulante un infortunio sul lavoro: M. Levi-Bianchini. Il Castigo nell'educazione: E. Weiss. No. 4. Il problema della costituzione motoria: L. De Lisi. Atti ufficiali della Società Psicoanalitica Italiana: M. Levi-Bianchini.

ANNALI DELLA R. SCUOLA NORMALE SUPERIORE DI PISA. Published by the Professors of the University of Pisa.

Series II, Vol. I, No. 1. Di una nuova dimostrazione dell'esistenza di Dio: G. Gentile. La genesi delle Elleniche di Sonofonte: G. De Sanctis. Il paesaggio della *Divina Commedia*: A. Momigliano. Recentiores, non deteriores: G. Pasquali.

THE HUMAN FACTOR. Journal of the National Institute of Industrial Psychology.

Vol. VI, No. 2. A Second Follow-up of Vocationally Advised Cases (1927-8): Angus Macrae. Effectiveness of Labour Incentives:

G. H. Miles. The Worker's Point of View—I. Measurement and Management: W. F. Watson. No. 3, March, 1932. Annual Report and Statement of Accounts for the Year 1931. No. 4, April, 1932. The Annual Meeting. The DINTA System: J. H. Currie. Incentives and Personal Enterprise: H. Dubreuil. Alterations of a Travelling Band Process Table: J. R. Jennings. The Worker's Point of View—II. Let the Scientist Try: John Gibson.

PACIFIC AFFAIRS. Journal of the Institute of Pacific Relations. Honolulu.

Vol. V, No. 2, Feb., 1932. Manchurian Backgrounds. K. K. Kawakami and SHU-HSI HSU. Indian Round Table Conference: F. G. Pratt. Research and the I.P.R.: William L. Holland. No. 4, April, 1932. Politics in Japan: Shigeharu Matsumoto. Singapore Naval Base: Tristan Buesst. Crisis in Australia: Stephen H. Roberts. Pacific Trends: The Editor.

ARCHIVOS BRASILEIROS DE HYGIENE MENTAL. Official Organ of the Brazilian League of Mental Hygiene.

Vol. IV, No. 3. Como evitar as proles degeneradas: Alberto Farani. Subsidio para a adaptacao brasileira dos tests de Binet-Terman: Ernani Lopes.

THE MORPETH REVIEW. The St. John's College Press: Morpeth, N.S.W.

Vol. II, No. 19, March, 1932. Stresemann: E. H. Burgmann. Leadership: H. K. Archdall. Scarcity of Markets: C. Tapley Timms. S. John's Gospel: Kenneth Henderson. China: Dr. T. Z. Koo. Gardens of Long Ago: H. M. R. Rupp. Judge Higgins: Professor Hancock. Colossianism: Dr. Micklem. Money and the Crisis: R. S. Lee.

BULLETIN DE L'INSTITUT NATIONAL D'ORIENTATION PROFESSIONNELLE. Monthly Review. Musée Pédagogique 41, Rue Gay Lussac, Paris.

REVUE DE PSYCHOLOGIE APPLIQUÉE DE L'EST. Société de Psychologie appliquée de l'Est. Nancy, 28, due de Solignac.

MENTAL HYGIENE BULLETIN. Published Monthly by the National Committee for Mental Hygiene. 374, Broadway, Albany, New York.

THE AUSTRALIAN INTERCOLLEGIAN. Australian Student Christian Movement. 182, Collins Street, Melbourne.

THE MEDICAL JOURNAL OF AUSTRALIA. Sydney: Australasian Medical Publishing Co., Seamer Street, Glebe. Published Weekly. Price: 1s.

BOOKS RECEIVED.

SCEPTICISM AND CONSTRUCTION. Bradley's sceptical principle as the basis of constructive philosophy. By Charles A. Campbell. London: George Allen and Unwin. Price: 12s. 6d. net.

DESUGGESTION FOR THE ATTAINMENT OF HEALTH, HAPPINESS AND SUCCESS. By E. Tietjens (Trans. from the Second German Edition by Eden and Cedar Paul.) London: George Allen and Unwin. Price: 18s. net.

ON THE NIGHTMARE. By Ernest Jones, M.D. London: The Hogarth Press, 52 Tavistock Square. Price: 21s.

THE DEFEAT OF BAUDELAIRE. By René Laforgue. London: The Hogarth Press, Tavistock Square. Price: 10s. 6d. net.

AN INTRODUCTION TO LIVING PHILOSOPHY. By D. S. Robinson. New York: Thomas Y. Crowell Company. Price: $3.00.

ETHICS. By Nicolai Hartmann, Professor of Philosophy, University of Berlin. Trans. by Stanton Coit. Two Vols. London: George Allen and Unwin. Price: Vol. I, 12s. 6d. net; Vol. II, 16s. net.

THE PHILOSOPHY OF DESCARTES. By A. Boyce Gibson. London: Methuen & Co. Price: 12s. 6d. net.

PHILOSOPHICAL ASPECTS OF MODERN SCIENCE. By C. E. M. Joad. London: George Allen and Unwin. Price: 10s. 6d. net.

SOCIAL AND POLITICAL IDEAS OF THE AGE OF REACTION AND RECONSTRUCTION. Ed. by F. J. C. Hearnshaw. London: George G. Harrap and Co. Price: 8s. 6d. net.

LEGENDS AND MYSTERIES OF THE MAORI. By Charles A. Wilson. London: George G. Harrap & Co. Price: 8s. 6d. net.

MOSCOW IMPRESSIONS. By Allan G. B. Fisher, Professor of Economics, Otago University, Dunedin, New Zealand. Price: 1s.

THE ATTITUDES OF PRISONERS AS A FACTOR IN REHABILITATION. By Henry E. Field. Department of Correction, State House, Boston; 1931.

AN EXPERIMENTAL STUDY OF MOVEMENT. By Sugi Mibai. Psychological Monographs, Vol. XLII, No. 3; 1931.

AN EXPERIMENTAL STUDY OF PITCH RECOGNITION. By Laurence A. Petran. Psychological Monographs. Vol. XLII, No. 6; 1932.

THE CORRELATION OF INTELLIGENCE SCORES AND CHRONOLOGICAL AGE FROM EARLY TO LATE MATURITY. By Catherine Cox Miles and Walter R. Miles. Reprinted from *The American Journal of Psychology*, Vol. XLIV.

THE OTIS S-A AS A FIFTEEN-MINUTE INTELLIGENCE TEST. By Catherine Cox Miles. Reprinted from *The Personnel Journal*, Vol. X, No. 4.

I FONDAMENTI METAFISICI DELLA MORALE DI SENECA: Marino Gentile. Milan. Società Editrice "Vita e Pensiero"; 1932.

NOTES AND NEWS.

The annual general meeting of the Wellington Local Branch, New Zealand, was held at Victoria University College. The election of officers for the year 1932 resulted as follows: President, Professor T. A. Hunter; Vice-Presidents, Dr. A. E. Paterson, Rev. Dr. J. Gibb, Prof. W. H. Gould, N. R. McKenzie, Esq., B.A., Dr. I. L. G. Sutherland, P. Fraser, Esq., M.P.; Honorary Secretary and Treasurer, A. E. Campbell, Esq., M.A.; Committee, Dr. H. Bakewell, Miss O. M. Sheppard, M.A.; P. M. Jackson, Esq., B.A.

The Branch is making an effort to hold and increase its members by a programme of monthly meetings at which papers are read upon problems of the hour. The first meeting, at which the subject "Social Planning" was introduced by three short papers, proved a marked success.

The Dunedin Philosophical Club has elected the following office-bearers: President, Dr. R. Lawson; Honorary Secretary-Treasurer, A. L. Haddon.

Six meetings were held during 1931, and some good discussions resulted on: "Discomfort in Culture" (Dr. R. Lawson); "Hebrew Wisdom Literature" (Dr. S. F. Hunter); "The Death Instinct in Freudian Teaching" (Dr. S. Moore); "The Faith of a Moralist" (Dr. E. N. Merrington); "Baron F. von Hugel" (Ven. Archdeacon Whitehead); and "The Theory of the State" (Mr. McQueen).

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BRISBANE BRANCH.—A meeting of the Brisbane Branch was held at the University on Friday evening, 15th April. In the unavoidable absence of the President, Professor Scott Fletcher, the chair was taken by Mr. E. J. Dunlop, B.A. The subject for the evening was "Vocational Guidance". Mr. W. M. Kyle, M.A., explained the need for Vocational Guidance, and dealt briefly with the work done by the National Institute of Industrial Psychology in England, the Australian Institute of Industrial Psychology in Sydney, and the work now being attempted by the Department of Public Instruction in Queensland. Mr. E. C. D. Ringrose, B.A., B.Sc., Dip.Ed., then gave an exposition of the principles of Vocational Guidance. Mr. G. T. Roscoe, M.A., described some of the tests of General Ability and Specific Abilities employed in the work, and exhibited test material.

Keen interest was shown in the discussion that followed, and it was resolved that the next meeting of the Branch should be devoted entirely to a discussion of the subject-matter of the three addresses.

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The Combe Lectureship in Psychology at the University of Edinburgh has given way to a Chair of Psychology. The first occupant, appointed by the University Court at their meeting on 22nd June, 1931, was Dr. James Drever, M.A., D.Phil., Reader and Combe Lecturer in Psychology.

Born in Orkney in 1873, Professor Drever graduated in Arts at the University of Edinburgh in 1893. After studying medicine for two years he entered the teaching profession, holding different appointments until, in 1906, he became assistant to Professor Darroch, who then occupied the Chair of Education in the University of Edinburgh. In 1909 he graduated B.Sc. in the University of London, with First Class Honours in Psychology. In 1912 he organized the work in the Pedagogical Laboratory of the Edinburgh Provincial Committee's Training College for Teachers at Moray House and thus established the first educational laboratory of this kind in Scotland. From 1914 to 1919 he held the dual appointment of Lecturer on Education at the University and Lecturer at the Training College. These posts he resigned in 1919 when he was appointed Combe Lecturer in Psychology.

The Department of Psychology in the University of Edinburgh was established in 1908 as an independent department, portion of the salary of the Lecturer being paid by the Trustees of the late George Combe, a well-known phrenologist. The Trustees have also made large donations for equipment.

About six years ago was initiated the University Psychological Clinic for Children and Juveniles. The Clinic is now become an annexe of the Jordanburn Nerve Hospital, as well as being an extension of the Department of Psychology into the field of social service. As an example of this branch of the work carried on at the Clinic, all the apprentices entering the printing trade are tested in intelligence, motor ability, colour vision, æsthetic judgment, etc., before being accepted by the printing industry in Edinburgh.